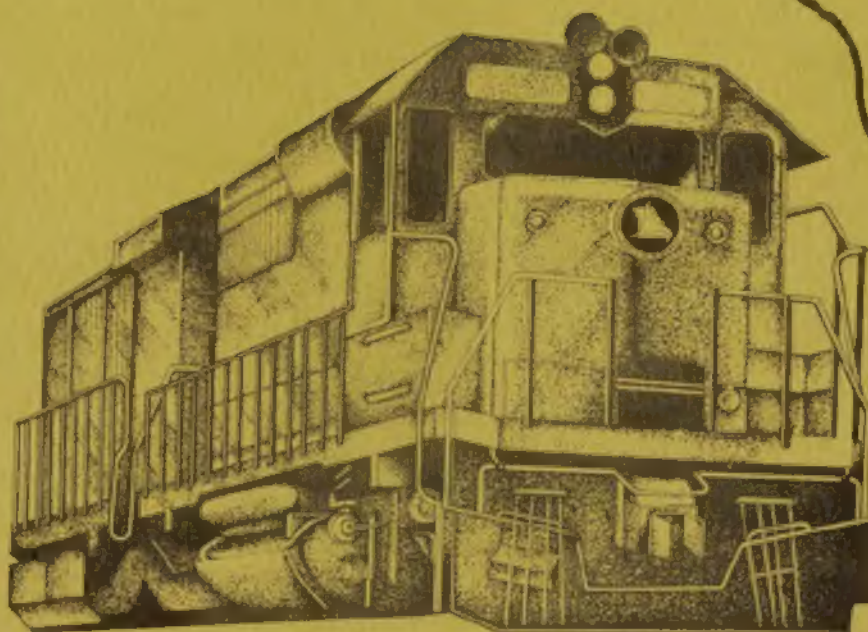


MISSOURI STATE RAIL PLAN

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MISSOURI STATE RAIL PLAN

Prepared by:

The Division of Railroads,
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FOREWORD

Faced with swiftly vanishing returns on their investments and a labor productivity problem that threatens to consume their entire equity, the nation's railroad industry is today definitely at a crossroads. There is little or no private incentive remaining to make the sizable investments needed either to keep abreast of progress in the United States or merely to retain a condition of status quo. Many railroads now lack the necessary funds to make any type of constructive capital outlays. It certainly is to be hoped that the American railroad industry can be preserved in the status of a privately run operation which will be able to stay out of the government subsidized category, will be able to continue to pay reasonable taxes, and will be an industry which is financially healthy.

The State of Missouri has become a major battleground for those issues currently facing the rail industry of this country. As in all aspects of human life, what effects one has, by necessity, a ripple effect on everyone - therefore rail oriented problems throughout the country affect the rail system of Missouri. In order for Missouri to have input into the national situation, we must first establish a state view toward railroads. And in the face of these problems, the Division of Railroads of the Missouri Department of Transportation remains the sole voice capable of providing the constructive input necessary to remedy this situation.

The basic planning document presented here provides a detailed, understandable exposition of the general condition and status of those railroads serving this state. The extent of its comprehensive coverage of the rail industry should materially establish the groundwork to assist continuing efforts to answer questions as they are raised.

CHAPTER I

STATE RAIL PLANNING PROCESS

266.15 (c)(1)(2)(d)

The State of Missouri is committed to keeping the railroads in the private sector as a major element of a balanced transportation system meeting the needs of Missourians. This document represents a significant step in a continuous planning process designed to lead to project implementation aimed at furthering this commitment. This document further represents Missouri's first submission of a State Rail Plan to the Federal Railroad Administration (FRA) in accordance with the Railroad Revitalization and Regulatory Reform Act of 1976 (4R Act) and federal regulations (49 CFR 266).

As such, it qualifies Missouri to continue to receive limited federal planning assistance and, as a result of future planning efforts, federal project funds. This planning effort provides an overview of Missouri's rail system and service as well as a detailed line by line analysis of those abandonment applications before the Interstate Commerce Commission (ICC). These lines are included in this initial State Rail Plan because under the 4R Act only those lines receiving abandonment approval from the ICC are eligible for federal local rail service assistance funds.

While several of these lines warrant further study, it is believed that once a line has been approved for abandonment, there is little justification in putting public funds into such a line. Therefore, future planning efforts will be directed towards those lines subject to possible abandonment at some time in the future, with a goal of returning these lines to economic viability and eliminating the need to abandon or subsidize them. At the same time, the Missouri Department of Transportation is actively working to amend the 4R Act to provide federal assistance to lines prior to abandonment, in an effort to assist these lines return to economic viability.

Missouri Rail Situation

The State of Missouri plays an essential role in the overall rail transportation system of the United States due to its high ranking as both an agricultural

and an industrial state. Out of a national total of 199,411 miles of track, Missouri ranks 10th with over 6,000 miles of track within its borders, 3 percent of the national total (see Figure I-1 for Missouri's rail network). More specifically, Missouri's importance in the rail industry is directly linked to the functions of St. Louis and Kansas City, the second and third largest railroad terminals in the United States respectively. For example, at St. Louis, upwards of 500,000 freight cars are outbound and 700,000 are inbound in an average year, with an additional 1,300,000 cars passing through the area.

Seventeen Class I railroads (those with over \$50,000,000 of revenue per year) operate in Missouri, however, 5 of these serve large metropolitan areas solely. The remaining 12 are statewide and employ over 16,000 people in Missouri (3.4 percent of total railroad employment); the annual income of these employees exceeds \$278,000,000. In addition, these 12 railroads accounted for 165,712,991 tons of revenue freight through Missouri in 1975. The valuation of property of those railroads serving Missouri, as assessed by the State Tax Commission, amounted to \$227,090,149 as of January 1, 1976. Furthermore, for 1976, the rail industry paid \$15,079,000 in either property taxes or other forms of taxes assessed in lieu of property taxes to the State of Missouri and local governments.

Passenger service is provided by Amtrak operating over 600 miles of track within the state (200 miles owned by the Atchison, Topeka and Santa Fe and 461 miles owned by Missouri Pacific). Service is presently available from Chicago to Los Angeles through Kansas City, Chicago to Laredo through St. Louis and Poplar Bluff, and from New York/Washington to Los Angeles through St. Louis, Jefferson City, and Kansas City, plus other destinations through connecting service.

But, as with the rest of the nation, railroads in Missouri are experiencing increasing difficulties in remaining competitive with other modes of transportation. Declining traffic and revenues have led to the deterioration of track and right-of-ways (estimated at over \$100,000,000 in upgrading and capital outlay totals in Missouri alone), and the abandonment of unprofitable rail lines. Out of a total of 20,102 miles of track up for abandonment, Missouri ranks 7th in the nation with a total of 849 miles of track (14 percent of total state mileage and 4 percent of national total) listed on ICC system diagram maps for possible abandonment. Of this total, 248 miles (10 rail segments) are already

	Single track railroad station
	Two track railroad or as noted station
	Rail message
	Dwelling railroad
	Ra road with trackage rights
	Accumulated mileage marker
	Rail station
	Multi-lane divided highway
	Other main highway
	Highway numbers interstate U S State
	State or international boundary
	County boundary name
	Navigable waterway or shoreline

1977



before the ICC in abandonment proceedings or have already been approved for abandonment by the ICC since February, 1976; the remaining 633 miles (19 segments) are candidates for possible abandonment within the next 3 years. In addition to this, a further 821 miles (23 route segments) or 13.7 percent of the state total have strong possibilities of becoming candidates for abandonment. Therefore, within the next few years, a total of 1,702 miles (28 percent of the total) of track could be abandoned in Missouri.

Other facets of the ever-changing rail situation in Missouri include the following: (i) the possibility of Amtrak eliminating passenger service to the state; (ii) the filing of bankruptcy by the Chicago, Milwaukee, St. Paul and Pacific; and (iii) the possibility of numerous mergers of railroads which include many lines currently serving Missouri.

Philosophical Framework

Both the problems and the benefits affecting the rail industry are vividly expressed within the borders of this state. The actions taken by Missouri, as set forth by this philosophical framework, may set precedents that could be followed by other states in solving their own rail problems. The Missouri Department of Transportation's (MoDOT) philosophy, being one of both planning and implementation, is designed to keep the railroads as a viable component of our free enterprise system.

The mission and overlying objective of MoDOT is to utilize the resources entrusted to it, or influenced by MoDOT to plan, promote, and develop a balanced multi-modal transportation system. Such a system will be coordinated with other state programs for economic and social development, energy conservation, and environmental protection to ensure its responsiveness to their needs. The departmental rail policy calls for the improvement of rail services throughout Missouri to guarantee that they remain as a vital component of a coordinated, multi-modal transportation system.

To translate this mission into meaningful activity, MoDOT has developed the following goals: (i) the economic development of the state by ensuring an adequate and well-balanced transportation infrastructure; (ii) the maximization of transportation benefits at the least possible social and economic costs; (iii) the provision of a broad framework within which local, metropolitan, and regional transportation planning and implementation can be

related; (iv) implementation of national transportation policies as they relate to the needs of Missouri; (v) the establishment of an equitable tax structure for railroads that would eliminate the inequities imposed upon them compared to that affecting the other modes; (vi) the development of a strong working relationship with Missouri's railroads; (vii) a public indoctrination and education program on the changing rail industry in Missouri; and (viii) the development of a strong working relationship with shippers. With goals such as these, the State of Missouri has taken several concrete steps in laying the necessary groundwork to achieve them. Both on a state level and in relationship with national transportation policies, Missouri has defined a philosophical framework to deal with prevalent and pervasive rail problems.

In June of 1975, the Missouri Transportation Commission adopted a rail policy statement in recognition of the critical problems in structural, regulatory, and managerial matters facing the railroads. The Commission recommended controlled voluntary consolidation of individual lines into trans-continental rail companies, regulatory reforms of the ICC including time constraints for required actions, abatement of property taxes on railroads, and fair competition among transportation modes through equitable taxation and subsidization. The first two recommendations have been addressed by the 4R Act, while the last two recommendations require further attention.

The 4R Act, which was an improvement in objectives and scope over the Regional Rail Reorganization Act (3R Act) of 1973, has several provisions relating to mergers, consolidation, and regulatory reform. Briefly, the act allows the U.S. Department of Transportation (USDOT) to develop and negotiate plans for mergers, establishes time limits on the ICC for merger decisions, and provides for an expedited merger procedure for consenting railroads. The 4R Act further establishes permanently both the Office of Rail Public Counsel and the Rail Services Planning Office, and requires the establishment of a uniform expense and revenue reporting system for rail carriers. These revised regulatory procedures are now being subjected to the test of practice with the filing for bankruptcy by the Chicago, Milwaukee, St. Paul and Pacific and the application for merger by the Burlington Northern and the St. Louis-San Francisco railroads, as well as the other railroad problems presently facing the Midwest.

A word of caution must be interjected here and is necessary in light of the success of past mergers. Little if anything is gained if small, bankrupt railroads are merged into large, bankrupt railroads. A case in point being Conrail, where the government first merged several bankrupt railroad companies into the Penn Central and then merged it again into Conrail. It is only a matter of semantics whether Conrail is called a bankrupt railroad or a nationalized railroad.

Property taxes are a state issue and their abatement may provide a mechanism for the continuation of essential rail line operations. The tax burden imposed upon railroads is greater than that imposed upon the other various modes of transportation. Railroads not only maintain their rights-of-way over which they operate, but also pay property taxes on them, which is the opposite of other modes whose rights-of-way are publicly owned and therefore removed from property taxation. This situation offers Missouri an opportunity to financially assist railroads through appropriate tax relief.

Fair competition among modes through equitable taxation and subsidization is a national issue. Subsidies should be granted on the basis of public need with the ultimate goal being that of maintaining competition among the various modes within areas where it is needed. Again, a word of caution is necessary here in that it has all too often been the federal solution to pump massive infusions of public funds into a problem that has already reached its own solution. The weak railroads and non-essential services will automatically disappear as a result of current procedures leaving strong railroads and essential services operating within our free enterprise system. The proper role of government is to allow present procedures to seek proper solutions, while keeping a close watch on them and being prepared to provide assistance as a temporary means to meet specific transportation needs.

Also in 1975, in anticipation of the 4R Act, MoDOT initiated and secured passage of the State Rail Preservation Act (Chap. 680 RSMo 1976, see Appendix C) which enables MoDOT to respond to the federal local rail service assistance program. This act requires MoDOT to establish a state rail plan, implement the plan, provide for the distribution of federal rail service preservation funds within the plan, and to provide assurances of both fiscal control and financial

responsibility in the processing of federal funds. It authorizes MoDOT to supply financial assistance, as funds are appropriated, for the preservation of operations and maintenance of railroads as set forth in federal legislation. It further authorizes MoDOT to act as the agent in any rail service preservation program, to cooperate with other states for these purposes, and to enter into contracts for these purposes.

Criteria which will be used by the state to determine priorities on lines or services to receive rail service assistance include: (i) economic viability, (ii) local and regional commitment, (iii) availability of alternate transportation facilities, (iv) various impacts (i.e. social, economic, environmental) of rail abandonment, (v) transitional needs, and (vi) upgrading and capital outlay requirements.

The State of Missouri must eliminate main line redundancy yet not jeopardize the capacity to move both commodities and passengers in the future. Unprofitable branch lines must be eliminated, yet essential services have to be retained. The state has to be able to ease the impacts of these losses but cannot establish perpetual public expenditures in the process. The preservation of intra- and intermodal competition, where possible and practicable, is a goal of this state but not at a public cost in excess of competitively induced savings.

Missouri has a difficult road before it, either allow the established procedures to continue working under careful scrutiny thereby keeping our railroads within the private sector; or allow the government to subsidize the existence of the rail industry with public money resulting ultimately in the nationalization of the railroad industry. Now is the time for the railroads, the government, and the public to support policies and concepts that would avoid the nationalization of our railroads. This will require difficult decisions, vigilant observation, as well as many short-term, localized hardships in order to prevent both long-term drains on our tax dollars and the destruction through nationalization of a viable component of this country's free enterprise system.

Status of State Rail Planning Activities

The dynamics of the railroad situation in the Midwest have necessitated a redefinition of the railroad planning activities for the Division of Railroads during recent months. These dynamics are exemplified by the filing for

bankruptcy by the Chicago, Milwaukee, St. Paul and Pacific on December 19, 1977 followed by hearings in January and discussions in February on all Midwest rail problems convened by U.S. Secretary of Transportation, Brock Adams. Clearly, the state rail planning process has become a much broader collection of activities than the development of an initial state rail plan.

Following the first meetings with state rail planning representatives for lines operating in Missouri and the completion of a descriptive inventory of Missouri's freight and passenger rail service numerous issues have come to the forefront and have become integral to the rail planning activities. These issues include bankruptcies, mergers, passenger service, branch lines, terminals and coal transportation.

With only 136 miles of track in Missouri, the bankruptcy of the Chicago, Milwaukee, St. Paul and Pacific appears to have little significance to the entire state. Yet, because the Chicago, Milwaukee, St. Paul and Pacific had a trackage rights agreement with the other bankrupt Midwest railroad, the Chicago, Rock Island and Pacific, the impact may be far more reaching. Unfortunately, this trackage rights agreement was terminated on May 8, 1978, due to a lack of funds necessary for rehabilitation of the Chicago, Rock Island and Pacific's track. This trackage rights agreement served to eliminate some mainline redundancy, but this new bankruptcy and the potential for several others have clouded the issue.

Because of these financial problems, merger proposals have appeared both in rumor and substance. The Burlington Northern and the St. Louis-San Francisco made application for a merger to the ICC on December 28, 1977. This merger has special significance to Missouri because it takes the second and third largest railroads in terms of miles of track and combines them into a single company operating 2,332 miles of track in Missouri which is 38 percent of the state's total mileage. Clearly, the benefits of this merger to the two companies must be weighed against the impact upon shippers, local economies and the other railroads throughout the state.

The present analysis of many of Amtrak's routes being conducted by the FRA and to be considered by Congress is another area of concern. While Missouri is actively interested in alternatives in transportation and energy conservation, the state is equally concerned over large drains on the public treasury. MoDOT strongly supports the preservation of passenger rights-of-way and equipment in

the event of a serious energy shortage or other national crisis, but seriously questions the need to spend over a million dollars a day in public money to run empty passenger trains.

Branch line problems were the original issue that led to the passage of the 4R Act and, to a large extent, most states' initial involvement in rail planning. A similar but more expensive problem is that of terminals and yards. Major terminal problems at present involve time delays and urban congestion in both St. Joseph and St. Louis. The final issue to be mentioned here is that of coal transportation. This issue takes on two dimensions since the resolution of the coal strike. These dimensions are the basic coal carrying capacity of the railroad industry and potential competition from coal slurry pipelines.

To address these issues the Division of Railroads has identified and become involved in numerous activities. These activities include various regional and national studies, the development of a dynamic state rail plan, a public participation program, light density line analyses, the National Conference of State Railway Officials (NCSRO), federal involvement, as well as routine state administrative functions. Studies that the Division is presently involved in include the St. Louis Terminal Project, the Midwest Rail Merger Study, and the Amtrak Route Analysis. It is easy to see how these studies relate directly to one or more of the issues previously identified.

This document represents Missouri's initial state rail plan. As such it provides a description and inventory of Missouri's rail system, freight and passenger service, and detailed analysis of selected branch lines. Future editions in the form of annual updates will address the other issues, new issues, and in particular endangered branch lines to qualify eligible ones for federal local rail service assistance.

Critical to all the issues and the rail plan in particular is the public participation program. An initial series of seven public meetings was held during March, April and May, 1978, to present the issues to the public, present the Department's philosophy and policy towards the issues, and to receive their input on both the issues and policies. Public input and local commitment will continually be sought to better define the planning directions and to establish priorities.

With only the one national organization, the Department assumes an active role in the NCSRO. In addition to the national activities, the Department also participates in the Western Region, Planning Committee and Passenger Committee activities. It also serves as a forum for input on federal involvement in addition to normal input through the congressional delegation. A substantial staff effort is required to contribute to and comment on proposed federal legislation, comment on the regulations developed to translate the legislation into action, and to comment on the impact of the action upon Missouri.

Most important to this state rail plan are the results of some of these activities. Missouri Railroad Facts, Draft Philosophical Framework, draft description of Missouri's overall planning process for all transportation services, ICC Abandonment Procedures and Timetable, Listing of System Diagram Lines, and two Missouri Railroad Maps were prepared for the public participation program and incorporated into this document. Clearly, this plan reflects the present status of state rail planning in Missouri. Missouri has carefully defined the railroad issues facing the state, undertaken a series of activities to address the issues, and has made significant progress in these activities.

Data Sources

The data presented in this state rail plan plus that required for continued planning has been and will be collected from any and all sources. Basic data sources include the railroads, ICC, Association of American Railroads (AAR), Missouri Public Service Commission (PSC), United States Railway Association (USRA), other federal agencies, other state agencies, consultants, and other appropriate sources for specific data requirements.

The descriptive and inventory data contained in this document come largely from a source document prepared by a consultant utilizing the above mentioned data sources, visual inspection and his many years experience in the railroad industry. Specific information on the individual lines examined in Chapter V is taken from the abandonment applications filed on these lines, supplemented by local input where necessary and available.

Future planning efforts on lines subject to possible abandonment will utilize data now being generated by shippers as a result of the initial series of public meetings. This information plus that supplied by the railroads will

be utilized to generate an Iowa type benefit/cost ratio for each line as an estimate of its dollar value to shippers, receivers, and the community, and of its annualized present dollar value of the cost of operating, maintaining, and upgrading the rail line.

To achieve the most comprehensive and accurate rail data and planning results, MoDOT continually seeks and welcomes additional data and input from all concerned parties.

Analytical Methodology

Since the bulk of this initial state rail plan is an inventory and description of Missouri's railroad system and service, no hard analytical methodology was employed. As cited above, the data utilized was assembled from appropriate sources and assembled into this descriptive report. The methodologies and format used in this plan, and in particular in Chapter V, are a combination of those developed by other states in the development of their rail plans and those suggested in the FRA Rail Planning Manual, as deemed appropriate for Missouri. For the detailed line-by-line analysis contained in Chapter V, six of the lines are considered dead issues and are included only because the mileage of these lines will be used to calculate Missouri's portion of federal local rail service assistance funds. For the remaining lines in Chapter V, due to local interest, additional data has been requested from shippers in order to calculate an Iowa type benefit/cost index.

As the document contains no Certified Program of Projects (CPP) and due to the limited resources of the Department, it was believed that no set analytical methodology was necessary at this time. In order to analyze all Category I and II lines in the future, the Department is presently refining available methodologies including Iowa's benefit/cost index, the Rail Service Planning Offices (RSPO) subsidy formula, and the FRA Rail Planning Manual into a methodology appropriate to Missouri.

Contents of the State Rail Plan

This planning document is divided into seven chapters which are: State Rail Planning, Characteristics of the Missouri Rail Network, Classes of Rail Service, Passenger Service, Individual Line-By-Line Analysis, Participation in the Planning Process, and Observations and Future Directions. Chapter I, State Rail Planning Process presents the purpose of this document, the present

rail situation in Missouri, Missouri's philosophy and policy towards railroads, data sources, analytical methodology, status of rail planning activities, content of the State Rail Plan, and modifications to the Planning Work State Statement.

Chapter II, Characteristics of the Missouri Rail Network, presents the characteristics of the major railroads in Missouri and their traffic density. Chapter III, Classes of Rail Service, covers high and wide load restrictions, weight limitations, rail service to military installations, line's eligible for assistance, lines potentially subject to abandonment, and lines pending abandonment. Chapter IV, Passenger Service, describes the Amtrak situation and current intercity passenger services.

Chapter V, Individual Line-By-Line Analysis, examines those lines granted abandonment since February 5, 1976, and those lines with pending abandonment applications before the ICC. Chapter VI, Participation in the Planning Process, describes the involvement of interested parties external to MoDOT in the planning process and the overall planning process for all transportation services in Missouri. Chapter VII, Observations and Future Directions, summarizes where the state rail planning process is today and outlines future strategy for the Department.

Notably absent from this document is the Certified Program of Projects which identifies those branch line projects which Missouri seeks federal funds for either subsidy, rehabilitation, purchase or substitute service. To be blunt, MoDOT has not had the resources necessary to analyze all endangered lines sufficiently in order to identify those projects Missouri desires to fund. Now that this base document is complete, emphasis is shifting to analyzing those branch lines and developing a Certified Program of Projects as part of the first annual update.

Modifications to the Planning Work Statement

In order to qualify for federal planning assistance the Department was required to submit a Planning Work Statement outlining the planning process and goals to be accomplished. Due to the limited resources of the Missouri Department of Transportation, the planning efforts have fallen far short of the original Planning Work Statement. As opposed to enumerating the modifications to the

existing Planning Work Statement, the Department is presently rewriting the Planning Work Statement to reflect present accomplishments and future goals. This revised Planning Work Statement will be primarily aimed at an analysis of endangered branch lines leading to a Certified Program of Projects and will be submitted in the near future.

CHAPTER II

CARRIER CHARACTERISTICS

266.15 (c)(2)(i)

Twelve railroads, which include all of the principal carriers within the state, are discussed in this chapter with a few exceptions. These include: (i) a few short lines (for example--the Bevier Southern); (ii) those railroads entering Missouri only to serve major border terminals such as St. Louis, Kansas City, and St. Joseph (examples include the Chessie System, Conrail, the Illinois Terminal Railroad, Southern Railway, Union Pacific, and the Family Lines); and (iii) industrial tracks which, in some cases, are several miles long. The twelve railroads discussed on Tables 2-1 through 2-12, Figures 2-1 to 2-12, and the accompanying fact sheets include:

RAILROAD COMPANY		MILEAGE IN MO.	% of MO. TRACK
Atchison, Topeka & Santa Fe (ATSF)	Santa Fe	205.6	3.1
Burlington Northern (BN)	BN	1067.9	15.9
Chicago and Northwestern (CNW)	CNW	81.5	1.2
Chicago, Milwaukee, St. Paul and Pacific (CMStP&P)	Milwaukee Road	135.6	2.0
Chicago, Rock Island and Pacific (CRI&P)	Rock Island	509.2	7.6
Illinois Central Gulf (ICG)	ICG	231.4	3.4
Kansas City Southern (KCS)	KCS	166.6	2.5
Missouri-Kansas-Texas (MKT)	Katy	358.9	5.3
Missouri Pacific (MP)	MoPac	1291.1	19.2
Norfolk & Western (N&W)	N&W	613.9	9.1
St. Louis-San Francisco (SLSF)	Fr+isco	1256.4	18.7
St. Louis Southwestern (SSW)	SSW	193.0	2.9
<u>TOTALS:</u>		<u>6111.1</u>	<u>90.9</u>

Characteristics of Lines Operating in Missouri

Nomenclature Employed for Describing Track Conditions 266.15 (d).--There has been considerable intramural discussion concerning the nomenclature used to describe track conditions. The Federal Railroad Administration (FRA) has set

up a series of classifications based on top allowed track speed. The following is a breakdown of Missouri rail mile distribution according to FRA Class:

<u>CLASS</u>	<u>MPH</u>	<u>MILES IN MO.</u>	<u>% OF MO. MILEAGE</u>
I	10/15	333.9	5.5
II	25/30	1,741.3	28.5
III	40/60	3,020.1	49.4
IV	60/80	818.6	13.4
V	80/90	198.2	3.2
VI	110/110	0.0	0

Each class is broke into 2 maximum operating speeds, the first for freight trains and the second for passenger service. Where FRA class is not known, "maximum speed" as designated by the railroad was used to determine FRA class for that particular segment.

A primary function of the Missouri State Rail Plan (SRP) is to provide a combined advisory briefing and basic planning tool for the use of legislators and the State administrative personnel. Therefore, a more descriptive approach has been employed in this version when discussing the relative conditions of rail trackage. This approach essentially indexes main line route segment proportionate track quality to that which is found on an excellent, high-grade, heavy duty main line capable of fifty mph or better speeds in freight train service; branch line ratings are keyed to optimum lines capable of speeds in the thirty mph range. The intent of the range of descriptive adjectives employed: poor, fair, good, excellent, plus some intermediate gradations of same, is to provide concerned public officials with easily comprehensible comparative ratings.

Under no circumstances should this method of description be considered to be any different in intent than a similar type of grading would be for road and highway categories ranging from unpaved rural farm links to limited access interstate highways. The rail route segment listings should be reviewed and understood in such a light. The categories should not be employed in an unfavorable light since they usually reflect the common sense economics of a specific situation. The lower rating condition listings refer, to a substantial extent, to the through-put capability in terms of allowed speeds and the relative

ability to get trains over the road within elapsed time frameworks considered to be optimum from an economic standpoint. Track condition ratings used are based on the consultants' on-site inspection. Ratings are as uniform in statewide appraisal as possible; when a slash figure is used it means that mileage in that particular segment is quite lengthy and nothing is perfectly uniform.

Yards 266.15(d).--With very few exceptions, practically every freight car making up a train consist must pass through and be worked at one or more yards enroute. The Uniform Code of Rules¹ defines a yard as "a system of tracks, other than main tracks, used for making up trains, storing of cars and for other purposes."

Basically, there are three principal types of yards: (i) Classification yards where trains are made up or cars are switched out and blocked for delivery. This blocking could include make-up for switchers or for movement to a nearby interchange point. There are two types of classification yards: flat switching and hump. Flat switching is done by an engine pushing cars, the cars being stopped at the proper spots either by loss of momentum, or by riders using the hand brake. A hump yard is a gravity operation with cars being pushed up a small hill, uncoupled at the top, and allowed to roll into a specified classification track. (ii) Industry support yards are those facilities where cars are either held awaiting placement on sidings within the service area or cars just pulled from sidings are held until they can be put into a movement going to a classification yard. The size of industry support yards vary from quite small (thirty car maximum capacity) up to those that can handle several hundred cars. And (iii) interchange yards are trackage facilities where cars are delivered for interchange with one or more railroads. These can vary in size from one or two short sidings to installations capable of handling several hundred cars per day.

Functionally, yards perform important duties which are essential to the conduct of railroad operations. In addition to their basic duties of "sorting" cars for makeup into trains, movement blocks or area delivery needs, principal yards also perform inspections of equipment and provide all needed servicing and light repair facilities.

Piggyback Facilities 266.15 (d).--Losses to truckers, particularly of less than car load freight and higher value commodities, have been partially offset by the railroads, with the installation of piggyback service. For some railroads, piggyback appears to have proved out, for others it has been embraced on an assumed competitive need basis despite the fact that it has not been profitable. Nationally, piggybacks' record for contribution to net profits has ranged between poor to non-existent for at least half the participating railroads.

The number of facilities available for loading piggyback equipment has been declining slightly in the past two or three years as railroads have cut back on earlier excesses in facility installation and concentrated on proven volume producing areas. The current Missouri list shows sixty-eight locations in or contiguous to Missouri where piggyback is handled. There are sixty-three ramp served terminals, three with piggypackers and four with cranes. A ramp is a simple embankment which a flat car is pushed against. Trailers are backed onto the flat cars and secured (vice versa for unloading). A piggy-packer is similar to a fork lift in principle in that it picks up a trailer and sets it down on a car from the side. A crane straddles both the flat car and the trailer to be picked up while loading it on the flat car. The ramp is the least costly setup but presents many problems because, with any reasonable volume, a string of cars has to be loaded and unloaded circus fashion, backed on or pulled off for the length of the coupled cars. Also, flat cars arriving with the trailers pointed in the wrong direction must be turned before placement, which creates extensive time delays plus substantial increases in operating expenses.

Control Type 266.15 (d).--The type of controls used by the major railroads in Missouri has also been identified. The three main forms of control, in increasing order of sophistication, are:

- (i) Train order control (TO);
- (ii) Automatic block signals (ABS)--a series of consecutive blocks governed by block signals, cab signals, or both, actuated by a train, engine or by certain conditions affecting the use of a block; and,

- (iii) Centralized traffic control (CTC)--a block signal system within which train movements are authorized by block signals whose indications are controlled from a remote point.

The breakdown of how much Missouri trackage is controlled by each are as follows:

	<u>TYPE</u>	<u>MILEAGE IN MO.</u>	<u>% OF MO. TRACK</u>
(i)	TO	2,063.8	33.8
(ii)	ABS	1,775.4	29.0
(iii)	CTC	2,116.4	35.0
	<u>TOTALS</u>	<u>5,955.2</u>	<u>97.8</u>

The remaining trackage under review is controlled mainly by either general order, manual block operation, yard limits (Rule 93) operation, verbal instructions by a yardmaster, or any type of combination of these.

Use of Current Speeds 266.15 (d).--Where dual speed ranges are shown, those above 60 mph normally refer to passenger train operations. Other dual speed quotes (e.g., 49/20) refer to speeds authorized according to varying classifications of sub-sections of the route. Where notations such as 50/60 appear, the ordinary application is 50 mph for regular freight trains and 60 mph for piggyback trains. Multiple limits in the lower speeds, 30 mph or less, generally reflect track conditions.

Route Summaries 266.15 (c)(2)(i)(ii)(iii)(d).--The following section includes the governing physical and operational specifics of both main and branch line trackage within the state of each of the twelve individual rail companies reviewed. Each railroad is accompanied by the following specifics: (i) illustrated rail system of each line; (ii) summary of routes, and; (iii) a general fact sheet. The fact sheets are further divided into several distinct sections which cover the principal commodities originated and terminated within Missouri (with accompanying Standard Transportation Commodity Code--STCC); total tons of revenue freight; clearance limits and weight restriction listings (for explanation refer to Chapter III); and, finally, a listing of the principal piggyback and yard locations owned by each particular railroad.

Figure 2-1
Santa Fe Routes in Missouri

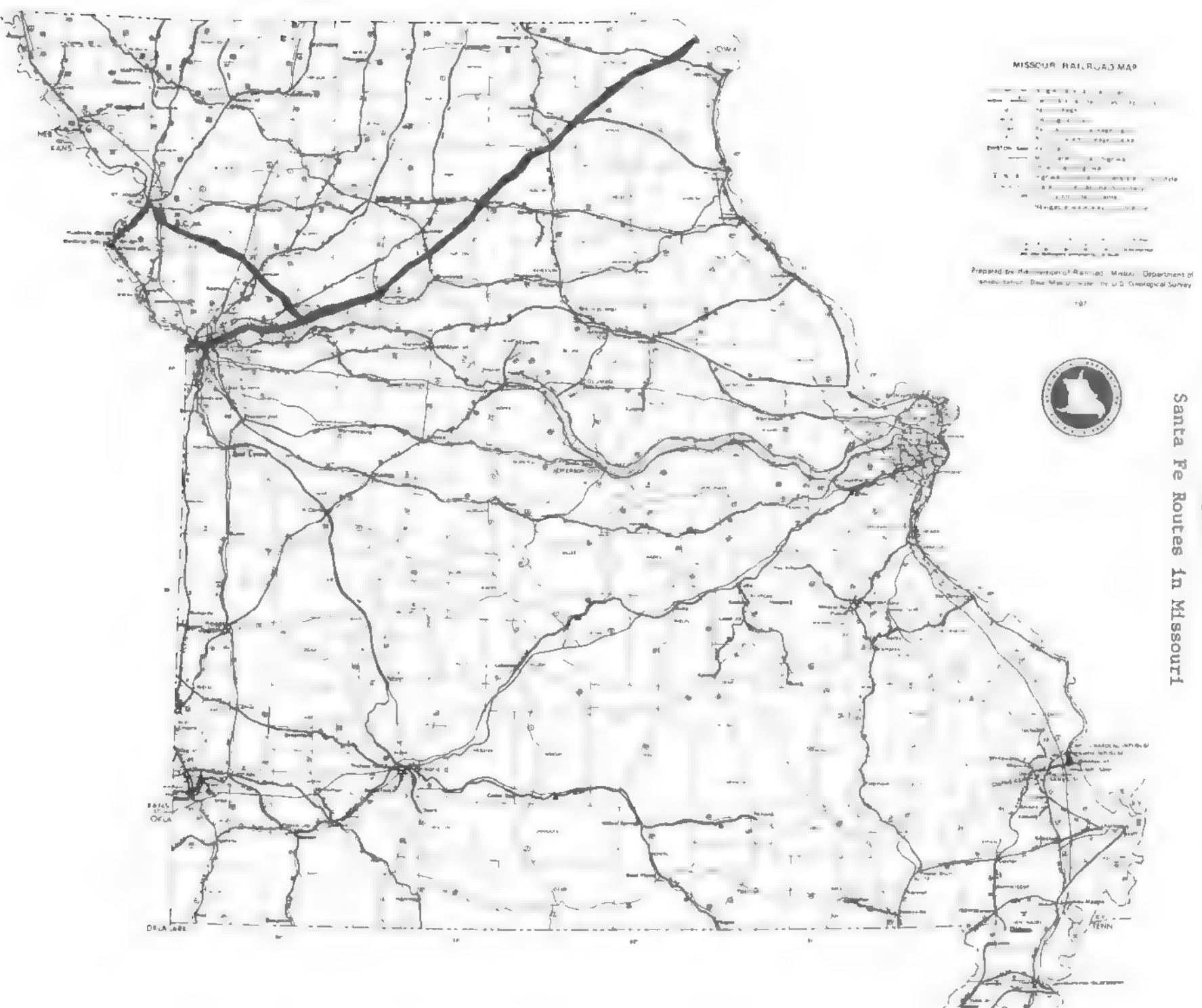


Table 2-1
Summary of Santa Fe Routes

Route Segment	Route Mileage In Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Fort Madison, Ia., to Marceline	94.4	Excellent. Interstate Main Line.	90/60 mph	2 RT Am-trak; 35-40 freight.	None	None
Marceline to Union Station, Kansas City	99.0	Excellent. Interstate Main Line.	90/60 mph	2 RT Am-trak; 35-40 freight, 14 N&W moves	BN N&W	None
BC Jct. to St. Joseph	7.1	Good. CNW track-age rights link on Iowa-Kansas City main line.	40 mph (20 mph in St. Joseph)	Normally weekly. 3 CNW RT with extras and locals as required on BC Jct. to St. Joseph segment	None	US 169
Henrietta to Richmond	5.1	Poor. Light density branch line.	10/20 mph	Weekly in low season	None	State 13
Topeka, Ks. to St. Joseph	20.7*	Trackage in state is owned by Rock Island. Light density branch line	n/a	Daily except Sunday local freight	BN	US 59
TOTAL:	205.6					

* Topeka, Ks. to St. Joseph mileage not included in totals.

1. Please refer to pg. II-1 for track condition nomenclature used.

Santa Fe General Fact Sheet

This company has a single main line running from the northeast corner of the state to Kansas City plus one branch which has been partially closed down subsequent to 1975. Main line route mileage is 200 miles. Inbound coal traffic and automobile/auto parts traffic are the two groups which reflect an above average movement.

(1) PRINCIPAL COMMODITIES ORIGINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Food	20	4,715	45.2
Farm products	01	2,933	28.1
Petroleum & coal products	29	702	6.7
Stone, glass, clay, concrete	32	581	5.6
Primary metal products	33	536	5.1
Chemicals	28	218	2.1
Waste & scrap	40	187	1.8
Miscellaneous mixed (piggyback)	46	129	1.2
Lumber & wood products	24	121	1.2
TOTALS		10,423	97.0

(11) PRINCIPAL COMMODITIES TERMINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Coal	11	8,418	34.9
Farm products	01	2,943	12.2
Food products	20	2,584	10.7
Transportation equipment	37	1,405	5.8
Chemicals	28	1,162	4.8
Petroleum & coal products	29	1,081	4.5
Miscellaneous mixed (piggyback)	46	988	4.1
Primary metal products	33	929	3.9
Waste and scrap	40	762	3.2
Rubber and plastic products	30	696	2.9
Stone, glass, clay, concrete	32	608	2.5
Shipper associations	45	528	2.2
Pulp and paper products	26	516	2.1
Lumber and wood products	24	429	1.8
Fabricated metal products	34	429	1.8
TOTALS		24,103	97.4

(iii) TOTAL TONS OF REVENUE FREIGHT: (for 1975)

<u>Total Tons Through Mo.</u>	<u>Originated in Mo.</u>	<u>Terminated in Mo.</u>	<u>Total</u>	<u>Coal Totals*</u>
22,062,530	614,605	1,665,458	2,280,063	837,421

*incomplete figure--does not include bridge traffic

(iv) CLEARANCE LIMITS AND WEIGHT RESTRICTION LISTINGS:

<u>ROUTE SEGMENT</u>	<u>MAX. ATR* FOR MAX. WIDTH</u>	<u>MAX. WIDTH</u>	<u>MAX. ATR</u>	<u>WIDTH AT MAX. ATR.</u>	<u>WEIGHT</u>
Ft. Madison- Kansas City	5'00"	11'05"	19'05"	7'06"	263,000
St. Joseph- BC Jct.	5'00"	11'05"	19'05"	7'06"	263,000
Gower- Henrietta	3'06"	11'10"	18'06"	10'00"	263,000
WB Jct.-CA Jct. (via N&W)	17'09"	11'06"	19'06"	8'00"	263,000
Congo- Sheffield (via MoPac)	1'06"	12'00"	20'00"	9'00"	263,000

*ATR--above the rail

(v) PIGGYBACK FACILITIES:

- 1) Carrollton--travelift, cranes
- 2) Henrietta--ramp
- 3) Kansas City--travelift, cranes
- 4) St. Joseph--ramp
- 5) Wyaconda--ramp
- 6) Ft. Madison, Ia.--ramp
- 7) Chanute, Ks.--ramp
- 8) Ottawa, Ks.--ramp
- 9) Pittsburg, Ks.--ramp

(vi) PRINCIPAL YARD LOCATIONS:

- 1) Kansas City, Ks. Argentine hump yard

Table 2-2
Summary of BN Routes

Route Segment	Route Mileage In Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Mark to North Kansas City	196.5	Good/Fair. Chicago-Kansas City main line	50 mph	3 RT plus extras be- tween Mark and Brook- field; 2 RT plus extras between Brookfield and North Kansas City	Santa Fe N&W	US 36
Brookfield to St. Joseph	99.1	Good/Very good Secondary main line	50 mph	1 RT	None	US 36
St. Louis to Burlington, Ia.	166.5	Good. Main line connector St. Louis to Twin Cities	50 mph (49 mph north of W. Quincy)	3 RT plus unit coal trains south of W. Quincy, local service north.	None	US 61
West Quincy to Kirksville	67.4	Poor. Minimum use branch line	10 mph	As needed	Santa Fe N&W	State 6
Alexandria to Centerville, Ia.	74.0	Fair/poor. Very low density branch line	10/25 mph Numerous restric- tions	Tri-weekly	None	US 136
Laclede to Unionville	53.3	Poor. Low density branch line	10 mph	Local service as necessary; currently tri-weekly	Milwaukee Road	State 5

Table 2-2 (continued)

Route Segment	Route Mileage In Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Carrollton to Cotter	11.7	Poor. Minimum use branch line	10 mph	Service as required	Santa Fe N&W	Local roads only.
Old Monroe to Francis	63.1	Fair/poor. Former Kansas City to St. Louis link	25 mph	1 RT	N&W	None
North Kansas City to St. Joseph	57.8	Very good. Kansas City to Nebraska main line, substantial coal train operations	50-60 mph	8-10 RT	None	I-29
II C Armour to Atchison, Ks.	3.6	Good. 4 railroads share use of Mo. River Bridge. 2 operate on the branch	30 mph 10 mph over bridge	3 RT (BN MoPac, Santa Fe)	Rock Island	US 59
East Leavenworth to Leavenworth, Ks.	2.6	Poor on BN segment good on CNW segment. CNW segment is portion of Iowa-Kansas City main line, balance is branch line used by BN and MoPac	10 mph-BN segment, 30 mph CNW segment, 8 mph on bridge	Service as needed on BN; CNW 4-5 Rt	None	State 92
Birmingham to Kearney	17.1	Fair. Local industry service	25 mph or less	Industrial district type of operations	Joint Milwaukee Road- Rock Island	I-35 US 69

Table 2-2 (continued)

Route Segment	Route Mileage In Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Creston, Ia. to Barnard	29.7	Fair/poor. Very low density branch line	10/25 mph	Service as required	CNW	US 71 State 27
St. Joseph to Humeston, Ia.	92.0	Fair. Low density branch line	25/35 mph	1 RT add't service in peak periods	CNW	US 169 US 136 I-35
Albany Jct. to Grant City	20.1	Poor. Minimum use branch line	10 mph	Service as required	None	US 169
St. Joseph to Omaha, Neb.	77.0	Very good St. Joseph-Napier; Fairly good Napier-Iowa line with fast growing unit coal train operations	St. Joseph-Napier 60 mph; 50 mph for unit coal trains	4 RT plus extras (unit coal trains) St. Joseph-Omaha; 1 RT plus locals Napier-Iowa; and extras as needed	None	I-29
Napier to Carling, Neb.	7.2	Very good. Main line across Rulo Bridge; Heavy unit coal train operations	Mo. segment is 60 mph; 50 mph for unit coal trains	4 RT plus extras (unit coal trains)	None	US 59
Bigelow to Maitland	14.3	Fair/poor. Very low density branch line	20/25 mph	Service as required	BN main line	US 59 State 113

Table 2-2 (continued)

Route Segment	Route Mileage In Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Corning to Tarkio	14.9	Fair. Very low density branch line	25 mph with several 10 mph restrictions in effect.	Service as required	BN main line	US 59
TOTAL:	1067.9					

1. Please refer to pg. II-1 for track condition nomenclature used.

BN General Fact Sheet

This company, in common with the other 2 principal Missouri railroads, the MoPac and the Frisco, has over 1,000 route miles within the state. The entire state, north of the Missouri River, is networked by 3 main lines and numerous branch lines. Main line intercity mileage totals 505. A very substantial and steadily growing coal traffic serves power plants in the state. Coal originated locally, mostly in the Unionville area, averaged 39 cars per week in 1975 and should expand. Excluding coal from both origination and termination totals, food and farm products, accounted for 55.3 percent of all other Missouri oriented carloads. The large volume of terminating lumber shipments reflect the substantial route coverage of Missouri consuming areas. Submitted application to ICC Dec. 28, 1977 for merger with the Frisco.

(i) PRINCIPAL COMMODITIES ORIGINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Food products	20	22,550	39.6
Farm products	01	8,377	14.7
Chemicals	28	8,266	14.5
Stone, glass, clay, concrete	32	7,474	13.1
Coal	11	2,043	3.6
Pulp and paper products	26	1,470	2.6
Transportation equipment	37	1,340	2.4
Waste and scrap	40	924	1.6
Lumber and wood products	24	921	1.6
Non-metallic minerals	14	887	1.6
Miscellaneous mixed (piggyback)	40	508	0.9
Primary metal products	33	501	0.9
<u>TOTALS</u>		<u>56,984</u>	<u>97.1</u>

(ii) PRINCIPAL COMMODITIES TERMINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Coal	11	38,329	35.2
Farm products	01	22,431	20.6
Food products	20	16,098	14.8

Chemicals	28	5,460	5.0
Pulp and paper products	26	4,589	4.2
Lumber and wood products	24	3,037	2.8
Stone, clay, glass, concrete	32	2,847	2.6
Non-metallic minerals	14	2,718	2.5
Rubber and miscellaneous	30	1,966	1.8
Metallic ores	10	1,828	1.7
Transportation equipment	37	1,766	1.6
Primary metal products	33	1,312	1.2
Waste and scrap	40	1,199	1.1
Containers returned empty	42	1,056	1.0
<u>TOTALS</u>		<u>108,875</u>	<u>96.1</u>

(iii) TOTAL TONS OF REVENUE FREIGHT: (for 1975)

<u>Total Tons Through Mo.</u>	<u>Originated in Mo.</u>	<u>Terminated in Mo.</u>	<u>Total</u>	<u>Coal Totals*</u>
17,315,290	2,984,554	7,403,889	10,388,443	3,601,950

*incomplete figure--does not include bridge traffic

(iv) CLEARANCE LIMITS AND WEIGHT RESTRICTION LISTINGS:

<u>ROUTE SEGMENT</u>	<u>MAX. ATR* FOR MAX. WIDTH</u>	<u>MAX. WIDTH</u>	<u>MAX. ATR.</u>	<u>WIDTH AT MAX. ATR.</u>	<u>WEIGHT</u>
Alton, Mo.- West Alton, Mo.	19'03"	12'00"	19'03"	12'00"	315,000
St. Louis, Mo.- West Alton, Mo.	18'06"	12'00"	19'03"	8'02"	315,000
West Alton, Mo.- Hannibal, Mo.	17'06"	12'00"	20'00"	8'00"	315,000
Hannibal, Mo.- West Quincy, Mo.	17'06"	12'00"	20'00"	8'01"	315,000
West Quincy, Mo.- Alexandria, Mo.	18'06"	12'00"	20'00"	10'00"	315,000

Alexandria, Mo.- Ft. Madison, Ia.	18'00"	12'00"	19'00"	11'04"	315,000
West Quincy, Mo.- Kansas City, Mo.	18'06"	12'00"	20'00"	10'00"	315,000
In Kansas City, Mo.	19'03"	12'00"	19'03"	12'00"	263,000
Brookfield, Mo.- St. Joseph, Mo.	17'06"	12'00"	19'00"	9'11"	315,000
Old Monroe, Mo.- Francis, Mo.	17'06"	12'00"	20'00"	8'03"	263,000
West Alton, Mo.- Alton, Ill.	19'03"	12'00"	19'03"	12'00"	315,000
West Quincy, Mo.- Kirksville, Mo.	17'09"	12'00"	20'00"	8'07"	220,000
Alexandria, Mo. Centerville, Mo.	14'09"	12'00"	18'00"	5'02"	220,000
Laclede, Mo.- Unionville, Mo.	14'06"	12'00"	18'00"	2'04"	210,000
Cotter, Mo.- Carrollton, Mo.	20'00"	12'00"	20'00"	12'00"	263,000
Birmingham, Mo.- Kearney, Mo.	19'00"	12'00"	20'00"	11'02"	315,000
Kansas City, Mo.- St. Joseph, Mo.	17'03"	12'00"	20'00"	8'08"	263,000
St. Joseph, Mo.- Napier, Mo.	20'00"	12'00"	20'00"	12'00"	263,000
Napier, Mo.- Pacific Jct., Ia.	19'00"	12'00"	20'00"	9'09"	263,000
Leavenworth, Ks.- E. Leavenworth, Mo.	16'03"	12'00"	16'03"	12'00"	263,000
Armour, Mo.- Atchison, Ks.	20'00"	12'00"	20'00"	12'00"	263,000
Bigelow, Mo.- Skidmore, Mo.	17'06"	12'00"	20'00"	8'03"	210,000

Corning, Mo.- Tarkio, Mo.	17'00"	12'00"	19'03"	7'00"	220,000
Creston, Ia.- Barnard, Mo.	15'06"	12'00"	19'06"	5'11"	220,000
Albany Jct., Mo.- Grant City, Mo.	15'06"	12'00"	18'00"	3'08"	263,000
St. Joseph, Mo.- Albany Jct., Mo.	17'06"	12'00"	17'06"	12'00"	210,000
Napier, Mo.- Rulo, Neb.	19'09"	12'00"	20'00"	9'06"	210,000

*ATR--above the rail

(v) PIGGYBACK FACILITIES:

- 1) Carrollton--ramp
- 2) Hannibal--ramp
- 3) N. Kansas City--piggybacker
- 4) Phelps City--ramp
- 5) St. Joseph--ramp
- 6) St. Louis--ramp
- 7) W. Quincy--ramp
- 8) Keokuk, Ia.--ramp

(vi) PRINCIPAL YARD LOCATIONS:

- 1) Hannibal--flat switching
- 2) W. Quincy--flat switching
- 3) St. Joseph--flat switching
- 4) Mexico--flat switching
- 5) Brookfield--flat switching
- 6) N. Kansas City--Murray hump yard
- 7) N. St. Louis--flat switching

Figure 2-3
CNW Routes in Missouri

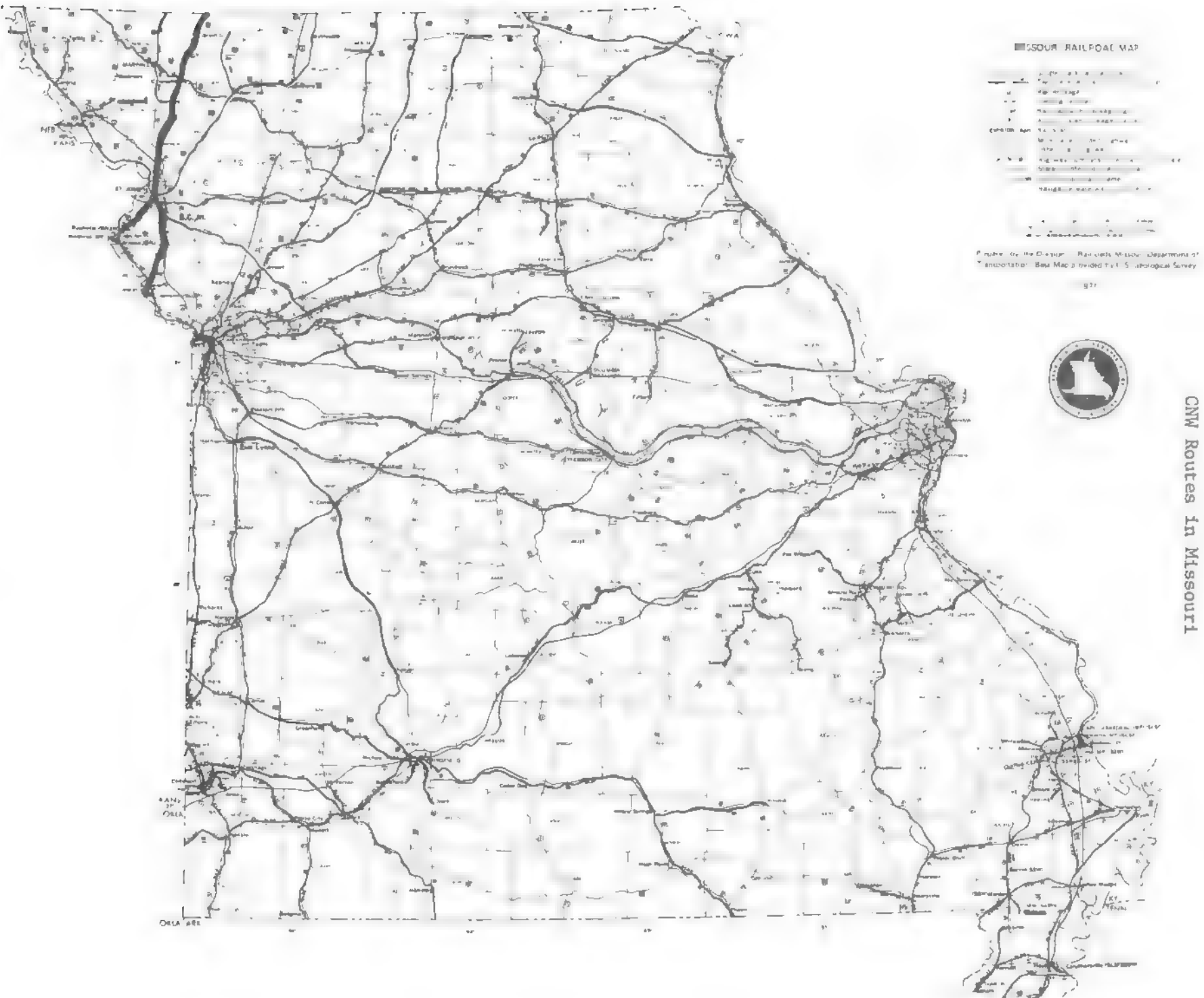


Table 2-3

Summary of CNW Routes

Route Segment	Route Mileage In Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Des Moines, Ia. to Kansas City	81.5	Good. Iowa- Kansas City main line	49 mph with numerous restrictions	3-5 RT	None	I-35 US 69
TOTAL:	81.5					

II-21

1. Please refer to pg. II-1 for track condition nomenclature used.

CNW General Fact Sheet

This railroad enters the northwestern part of the state, running south to St. Joseph and thence to Leavenworth, Kansas down the Kansas side towards Kansas City. It enters Kansas City on trackage rights. It has 81.5 route miles in Missouri. St. Joseph is the only point of major significance which is served other than Kansas City. At St. Joseph, the CNW is competing with 4 other major carriers for a share of the business. Missouri oriented tonnage was 15.9 percent of total revenue freight tonnage handled.

(i) PRINCIPAL COMMODITIES ORIGINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Food products	20	3,044	59.3
Chemicals	28	673	13.1
Farm products	01	544	10.6
Stone, clay, glass, concrete	32	330	6.4
Primary metal products	33	149	2.9
<u>TOTALS</u>		<u>5,129</u>	<u>92.3</u>

(ii) PRINCIPAL COMMODITIES TERMINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Food products	20	3,454	25.7
Farm products	01	3,021	22.5
Waste and scrap	40	1,536	11.5
Miscellaneous mixed (piggyback)	46	1,140	8.5
Pulp and paper products	26	874	6.5
Primary metal products	33	607	4.5
Transportation equipment	37	485	3.6
Chemicals	28	407	3.0
Lumber and wood products	24	398	3.0
Stone, clay, glass, concrete	32	375	2.8
Fabricated metal products	34	310	2.3
<u>TOTALS</u>		<u>13,416</u>	<u>93.9</u>

(iii) TOTAL TONS OF REVENUE FREIGHT: (for 1975)

<u>Total Tons</u> <u>through Mo.</u>	<u>Originated</u> <u>in Mo.</u>	<u>Terminated</u> <u>in Mo.</u>	<u>Total</u>	<u>Coal</u> <u>Totals</u>
5,631,893	229,401	665,997	895,378	none

(iv) CLEARANCE LIMITS AND WEIGHT RESTRICTION LISTINGS:

<u>ROUTE</u> <u>SEGMENT</u>	<u>MAX. ATR^a FOR</u> <u>MAX. WIDTH</u>	<u>MAX.</u> <u>WIDTH</u>	<u>MAX.</u> <u>ATR</u>	<u>WIDTH AT</u> <u>MAX. ATR</u>	<u>WEIGHT</u>
Des Moines, Ia.- St. Joseph, Mo.	18'09"	13'00"	18'09"	13'00"	263,000
St. Joseph, Mo.- Kansas City, Mo.	4'00" *16'06"	11'09" 13'00"	18'09" 18'09"	8'00" 8'00"	263,000 263,000

*Loads of these dimensions can be handled only when cleared by specific clearance issued by Assistant Vice President - Transportation.

^aATR--above the rail

(v) PIGGYBACK FACILITIES:

- 1) Kansas City--ramp
- 2) Madison, Ill.--ramp

(vi) PRINCIPAL YARD LOCATIONS:

- 1) Kansas City--flat switching
- 2) St. Joseph--flat switching

MISSOURI RAILROAD MAP

- Single track railroad
- Double track railroad
- Passenger service
- Freight service
- Express service
- Inter-city service
- Local service
- Other railroads
- Highway numbers
- State or international boundaries
- County boundaries
- City boundaries
- Water bodies



Prepared by the Division of Railroads, Missouri Department of Transportation. Base Map provided by U.S. Geological Survey.

1977



Milwaukee Road Routes in Missouri

Figure 2-4

Table 2-4

Summary of Milwaukee Road Routes

Route Segment	Route Mileage in Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Ottumwa, Ia. to Kansas City	135.6	Fair/poor. Former main line Iowa- Kansas City. Recently reduced to limited branch line status	40 mph; substantial mileage 10-25 mph. Some 60 mph on joint Milwaukee Road/Rock Island trackage	Local service as needed; BN through trains have been re- routed via parallel Rock Island trackage	Rock Island BN	None
TOTAL:	135.6					

1. Please refer to pg. II-1 for track nomenclature used.

Milwaukee Road General Fact Sheet

This railroad shifted its main line to that of the Rock Island between the Iowa line and Kansas City in early 1977. Missouri oriented volume, via its former 1975 route, mostly Kansas City based, amounted to slightly less than 14.6 percent of all revenue freight tonnage. The Milwaukee Road declared bankruptcy December 19, 1977.

(i) PRINCIPAL COMMODITIES ORIGINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Food products	20	1,458	25.5
Stone, clay, glass, concrete	32	942	16.5
Farm products	01	880	15.4
Waste and scrap	40	729	12.8
Chemicals	28	335	5.9
Fabricated metal products	34	213	3.7
Transportation equipment	37	193	3.4
Pulp and paper products	26	166	2.9
Miscellaneous mixed (piggyback)	46	154	2.7
Primary metal products	33	149	2.6
<u>TOTALS</u>		<u>5,711</u>	<u>91.4</u>

(ii) PRINCIPAL COMMODITIES TERMINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Food products	20	2,193	23.9
Pulp and paper products	26	1,338	14.6
Transportation equipment	37	1,315	14.3
Farm products	01	976	10.6
Machinery	35	479	5.2
Fabricated metal products	34	455	5.0
Chemicals	28	407	4.4
Lumber and wood products	24	372	4.1
Miscellaneous mixed (piggyback)	46	280	3.0
Electrical machinery	36	268	2.9
Primary metal products	33	227	2.5
Waste and scrap	40	227	2.5
<u>TOTALS</u>		<u>9,182</u>	<u>93.0</u>

(iii) TOTAL TONS OF REVENUE FREIGHT: (for 1975)

<u>Total Tons Through Mo.</u>	<u>Originated in Mo.</u>	<u>Terminated in Mo.</u>	<u>Total</u>	<u>Coal Totals</u>
3,693,275	195,665	341,889	537,554	None

(iv) CLEARANCE LIMITS AND WEIGHT RESTRICTION LISTINGS:

<u>ROUTE SEGMENT</u>	<u>MAX. ATR* FOR MAX. WIDTH</u>	<u>MAX. WIDTH</u>	<u>MAX. ATR</u>	<u>WIDTH AT MAX. ATR</u>	<u>WEIGHT</u>
Ottumwa, Ia.- Laredo, Mo.	18'09"	12'00"	19'09"	11'00"	263,000
Laredo, Mo.- Lawson Jct., Mo.	20'00"	12'00"	20'00"	12'00"	263,000
Lawson Jct., Mo.- Moseley Jct., mo.	18'09"	12'00"	20'00"	10'02"	263,000
Moseley Jct., Mo.- Kansas City, Mo.	20'00"	12'00"	20'00"	12'00"	263,000

* ATR--above the rail

(v) PIGGYBACK FACILITIES:

1) Kansas City--ramp

(vi) PRINCIPAL YARD LOCATIONS:

1) Kansas City-Knoche Yard (flat switching with the KCS)

Table 2-5

Summary of Rock Island Routes

Route Segment	Route Mileage in Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
St. Louis to Eldon	159.9	Fair/poor. Light density secondary main line	10/25/30 mph	1 RT	MoPac Frisco Rock Island	US 50 State 38
Eldon to Kansas City, Ks.	128.4	Fair/poor. Light density secondary main line	10/30 mph	1 RT	MoPac	State 52 State 2 State 131 State 58
Eldon, Ia. to Trenton	37.7	Fair/poor. Main line to Texas and Southwest	25/30/40/50 mph	4 RT plus locals and extras as required; also 4 RT Milwaukee Road trains	Milwaukee Road	US 65
Trenton to Kansas City, Ks.	94.0	Good. Main line to Texas and Southwest	35/40/50/60 mph	4 RT plus locals and extras as required; plus 4 RT Milwaukee Road trains	BN Milwaukee Road	I-35 some state and county roads also
Kansas City to St. Joseph	63.6	Very good. BN main line Kansas City to Nebraska	50/60 mph	1 RT (track-age rights on BN)	MoPac	I-29 also local highways

Table 2-5 (continued)

Route Segment	Route Mileage in Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Coburn to Jamesport	4.9	Poor. Minimum use branch line	20 mph	Service as required	None	County roads
St. Joseph to Atchison, Ks.	20.7	Fair/poor. Light density branch line	10/20 mph	Tri-weekly on Rock Island; daily except Sunday on Santa Fe	BN	US 59
TOTAL:	509.2					

1. Please refer to pg. II-1 for track condition nomenclature used.

Rock Island General Fact Sheet

The Rock Island's principal main line transits a short segment of slightly more than 131 miles between the Iowa border and Kansas City enroute to the Southwest. A secondary main line connects St. Louis with Kansas City. Two short branches and a trackage rights operation, Kansas City to St. Joseph, complete the picture. Total route mileage in the state is 509. The commodity patterns are general in nature with no particularly outstanding or unusual movement situations, other than the very sizable proportion of petroleum products traffic originated. Missouri oriented tonnage was 15.6 percent of total revenue freight.

(i) PRINCIPAL COMMODITIES ORIGINATED: (for 1975)

COMMODITY	STCC	CARS	PERCENT
Food products	20	4,534	28.8
Petroleum and coal products	29	2,728	17.3
Farm products	01	1,692	10.7
Non-metallic minerals	14	962	6.1
Chemicals	28	955	6.1
Miscellaneous mixed (piggyback)	46	935	5.9
Stone, glass, clay, concrete	32	805	5.1
Transportation equipment	37	598	3.8
Lumber and wood products	24	569	3.6
Pulp and paper products	26	437	2.8
Waste and scrap	40	373	2.4
TOTALS		15,762	92.6

(ii) PRINCIPAL COMMODITIES TERMINATED: (for 1975)

COMMODITY	STCC	CARS	PERCENT
Food products	20	2,345	22.1
Lumber	24	1,889	17.8
Chemicals	28	1,575	14.8
Pulp and paper products	26	1,140	10.7
Farm products	01	1,117	10.5
Container returned empty	42	438	4.1
Transportation equipment	37	370	3.5
Petroleum and coal products	29	324	3.0

Non-metallic minerals	14	267	2.5
Stone, clay, glass, concrete	32	251	2.4
<u>TOTALS</u>		<u>10,632</u>	<u>91.4</u>

(iii) TOTAL TONS OF REVENUE FREIGHT: (for 1975)

<u>Total Tons Through Mo.</u>	<u>Originated in Mo.</u>	<u>Terminated in Mo.</u>	<u>Total</u>	<u>Coal Totals*</u>
7,784,374	658,125	556,819	1,214,944	630

*incomplete figure--does not include bridge traffic

(iv) CLEARANCE LIMITS AND WEIGHT RESTRICTION LISTINGS:

<u>ROUTE SEGMENT</u>	<u>MAX. ATR* FOR MAX. WIDTH</u>	<u>MAX. WIDTH</u>	<u>MAX. ATR</u>	<u>WIDTH AT MAX. ATR</u>	<u>WEIGHT</u>
Kansas City, Mo.- Des. Moines, Ia.	19'00"	11'00"	19'00"	11'00"	263,000
St. Louis, Mo.- Kansas City, Mo.	16'03"	11'00"	18'09"	6'02"	263,000
Kansas City, Mo.- St. Joseph, Mo.	17'03"	12'00"	18'03"	10'09"	263,000
Coburn, Mo.- Jamesport, Mo.	21'09"	12'00"	21'09"	12'00"	200,000
St. Joseph, Mo.- Atchison, Ks.	14'03"	12'00"	18'03"	11'06"	263,000
Topeka, Ks.- St. Joseph, Mo.	17'03"	12'00"	18'03"	11'00	200,000

*ATR--above the rail

(v) PIGGYBACK FACILITIES:

- 1) St. Louis--ramp
- 2) St. Joseph--ramp
- 3) Kansas City, Ks.--ramp

(vi) PRINCIPAL YARD LOCATIONS:

- 1) St. Louis--Carrie Avenue flat switching yard
- 2) Kansas City, Ks.--Armourdale hump yard
- 3) Trenton, Mo.--flat switching yard

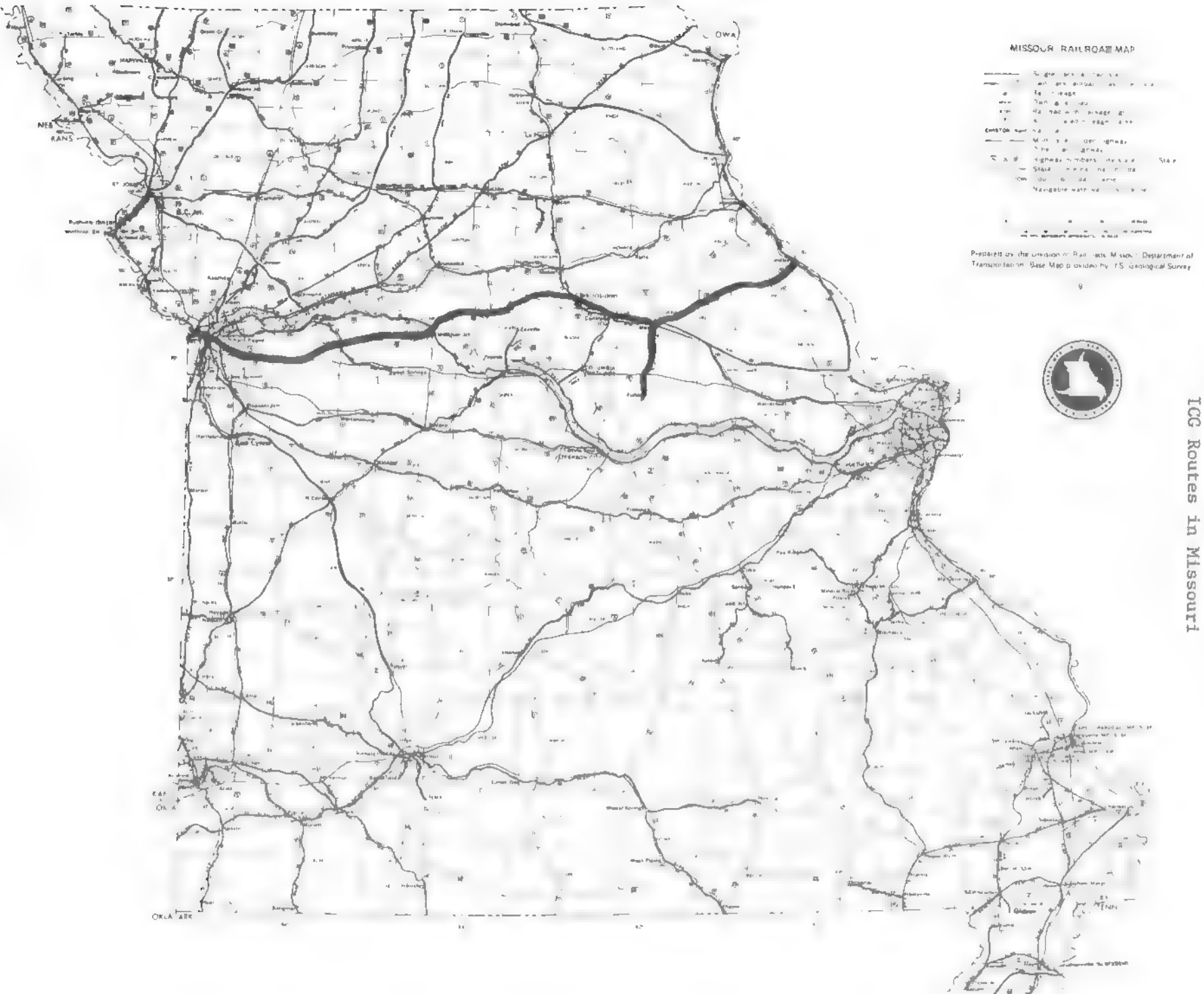


Figure 2-6
ICG Routes in Missouri

Table 2-6
Summary of ICG Routes

II-35

Route Segment	Route Mileage in Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Roodhouse to Slater, Ill.	119.2	Fair/good. Across Missouri main line	35 mph Roodhouse-Mexico; 40 mph Mexico-Slater	2 RT plus extras or local freights as needed	N&W	US 54 local roads
Slater to Kansas City	88.4	Fair/good. Across Missouri main line	40 mph	2 RT plus extras or local freights as needed	MoPac N&W	I-70 local roads
Mexico to Fulton	23.8	Fair. Moderate density branch line	25 mph	Local service only	None	US 54
TOTAL:	231.4					

1. Please refer to pg. II-1 for track condition nomenclature used.

ICG General Fact Sheet

This railroad's main line crosses the state from Louisiana, Missouri on the east to Kansas City on the west. There is one 24 mile branch. Total route mileage is 231. This company does not have a dominant volume of bridge traffic, the Missouri oriented ratio being 56.5 percent of all revenue freight tonnage. Actual across state bridge traffic amounts to about 100 cars per day, averaged. The sizable transportation equipment carload terminations chiefly reflect auto parts deliveries to the Kansas City area. The relatively substantial stone, clay, glass and concrete listings principally cover firebrick and fireclay loadings at Fulton, Missouri on the Fulton Branch and at Mexico on the main line. Piggyback volume is at a fair level considering the overall operation.

(1) PRINCIPAL COMMODITIES ORIGINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Stone, clay, glass, concrete	32	7,187	29.7
Food products	20	6,239	25.8
Transportation equipment	37	1,838	7.6
Miscellaneous mixed (piggyback)	46	1,693	7.0
Farm products	01	1,552	6.4
Chemicals	28	1,352	5.6
Pulp and paper products	26	812	3.4
Non-metallic minerals	14	464	1.9
Waste and scrap	40	437	1.8
Fabricated metal products	34	435	1.8
<u>TOTALS</u>		<u>24,168</u>	<u>91.0</u>

(11) PRINCIPAL COMMODITIES TERMINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Transportation equipment	37	8,221	24.8
Pulp and paper products	26	3,224	9.7
Metallic ores	10	3,006	9.1
Food products	20	2,887	8.7
Miscellaneous mixed (piggyback)	46	2,733	8.3

Chemicals	28	2,179	6.6
Farm products	01	1,722	5.2
Shipper Associations	45	1,184	3.6
Lumber and wood products	24	1,135	3.4
Stone, clay, glass, concrete	32	1,120	3.4
Rubber and plastic products	30	1,086	3.3
Fabricated metal products	34	785	2.4
Furniture and fixtures	25	699	2.1
Waste and scrap	40	671	2.0
<u>TOTALS</u>		<u>33,113</u>	<u>92.6</u>

(iii) TOTAL TONS OF REVENUE FREIGHT: (for 1975)

<u>Total Tons Through Mo.</u>	<u>Originated in Mo.</u>	<u>Terminated in Mo.</u>	<u>Total</u>	<u>Coal Totals</u>
4,128,578	995,198	1,336,070	2,331,268	439,566

(iv) CLEARANCE LIMITS AND WEIGHT RESTRICTION LISTINGS:

<u>ROUTE SEGMENT</u>	<u>MAX. ATR* FOR MAX. WIDTH</u>	<u>MAX. WIDTH</u>	<u>MAX. ATR</u>	<u>WIDTH AT MAX. ATR</u>	<u>WEIGHT -----</u>
Roodhouse, Mo.-- Mexico, Mo.	14'09"	11'06"	19'06"	2'06"	263,000
Mexico, Mo.-- Fulton, Mo.	14'09"	11'06"	19'06"	2'06"	263,000
Mexico, Mo.-- Kansas City, Mo.	14'09"	11'06"	19'00"	4'00"	263,000

*ATR--above the rail

(v) PIGGYBACK FACILITIES:

- 1) Kansas City--ramp
- 2) Venice, Ill.--ramp
- 3) East St. Louis, Ill.--ramp

(vi) PRINCIPAL YARD LOCATIONS:

- 1) Mexico, Mo.--flat switching yard
- 2) Slater, Mo.--flat switching yard
- 3) Kansas City, Mo.--Lydia Avenue flat switching yard

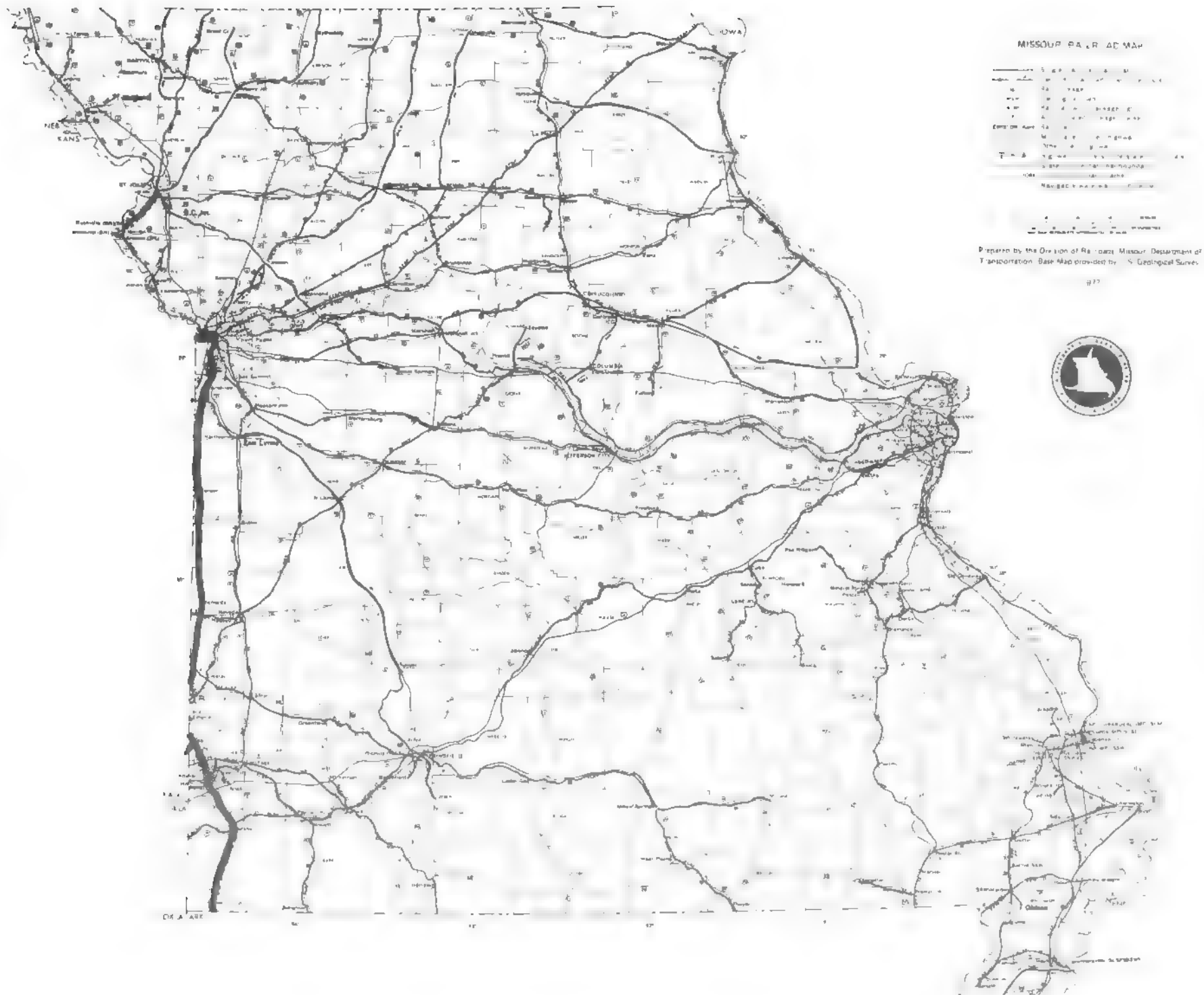


Table 2-7

Summary of KCS Routes

Route Segment	Route Mileage in Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Kansas City to Pittsburg, Ks.	98.9	Fair/good. Kansas City to Gulf main line	40 mph	2 RT plus extras and locals as necessary. The overall average is 4-5 RT daily	MoPac Frisco	US 69 US 71
Pittsburg, Ks. to Watts, Okla.	64.4	Fair/good. Kansas City to Gulf main line	40 mph	2 RT plus extras and locals as necessary. The overall average is 3-4 RT daily	Frisco	US 71
K.O.G. Jct. to Baxter Springs, Ks.	3.3	Fair. Low density branch line	20 mph	Local switcher weekdays	None	None
TOTAL:	166.6					

1. Please refer to pg. II-1 for track condition nomenclature used.

KCS General Fact Sheet

The main line runs southward from Kansas City to Neosho and onward to Arkansas/Oklahoma border points with 166 miles of the route being in Missouri and the balance just west of the Missouri/Kansas border. There are also 3.3 miles of branch line trackage in Missouri. The larger portion of both originations and terminations which are Missouri oriented occur in the Kansas City area. Volume at Joplin and Neosho are moderately good. Functionally, the greater part of this railroad's volume is bridge traffic; the Missouri oriented share is about 20 percent of the total revenue freight tonnage. This railroad's farm products and food products movements are oriented southward. Therefore, the Missouri proportion is below the average for most Missouri serving railroads.

(i) PRINCIPAL COMMODITIES ORIGINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Food products	20	3,331	29.2
Farm products	01	2,578	22.6
Waste and scrap	40	945	8.3
Chemicals	28	843	7.4
Primary metal products	33	643	5.6
Furniture	25	516	4.5
Stone, clay, glass, concrete	32	403	3.5
Petroleum and coal products	29	365	3.2
Lumber and wood products	24	351	3.1
Rubber and miscellaneous plastics	30	301	2.6
Transportation equipment	37	288	2.5
Small package freight shipments	47	287	2.5
<u>TOTALS</u>		<u>11,399</u>	<u>95.0</u>

(ii) PRINCIPAL COMMODITIES TERMINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Pulp and paper products	26	1,971	15.8
Farm products	01	1,737	14.0
Food products	20	1,672	13.4
Chemicals	28	1,374	11.0
Petroleum and coal products	29	1,266	10.2
Lumber and wood products	24	977	7.9

Small package freight shipments	47	583	4.7
Rubber and miscellaneous plastics	30	543	4.4
Fabricated metal products	34	466	3.7
Stone, clay, glass, concrete	32	450	3.6
Primary metal products	33	429	3.4
Machinery except electrical	35	261	2.1
<u>TOTALS</u>		<u>12,436</u>	<u>94.7</u>

(iii) TOTAL TONS OF REVENUE FREIGHT: (for 1975)

<u>Total Tons Through Mo.</u>	<u>Originated in Mo.</u>	<u>Terminated in Mo.</u>	<u>Total</u>	<u>Coal Totals</u>
5,784,116	587,196	569,218	1,156,414	80,260*

*Unit coal train operation Kansas City to LaCygne set for an early start-up.

(vi) CLEARANCE LIMITS AND WEIGHT RESTRICTION LISTINGS:

<u>ROUTE SEGMENT</u>	<u>MAX. ATR* FOR MAX. WIDTH</u>	<u>MAX. WIDTH</u>	<u>MAX. ATR</u>	<u>WIDTH AT MAX. ATR</u>	<u>WEIGHT</u>
Kansas City, Mo.- Kansas City, Ks.	15'00"	12'00"	18'03"	7'10"	251,000
Kansas City, Mo.- Joplin, Mo.	19'06"	12'00"	19'06"	12'00"	263,000
Joplin, Mo.- Neosho, Mo.	19'03"	12'00"	20'03"	10'00"	263,000
Neosho, Mo.- Howe, Okla.	18'00"	12'00"	21'00"	8'00"	263,000
Asbury, Mo.- Crestline, Ks.	21'06"	12'00"	21'00"	12'00"	251,000

*ATR--above the rail

(v) PIGGYBACK FACILITIES:

- 1) Joplin--ramp
- 2) Kansas City--ramp
- 3) Neosho--ramp

(vi) PRINCIPAL YARD LOCATIONS:

- 1) Kansas City--Knoche flat switching yard (joint with Milwaukee Road)
- 2) Neosho--flat switching yard
- 3) Joplin--flat switching yard
- 4) Pittsburg, Ks.--North flat switching yard

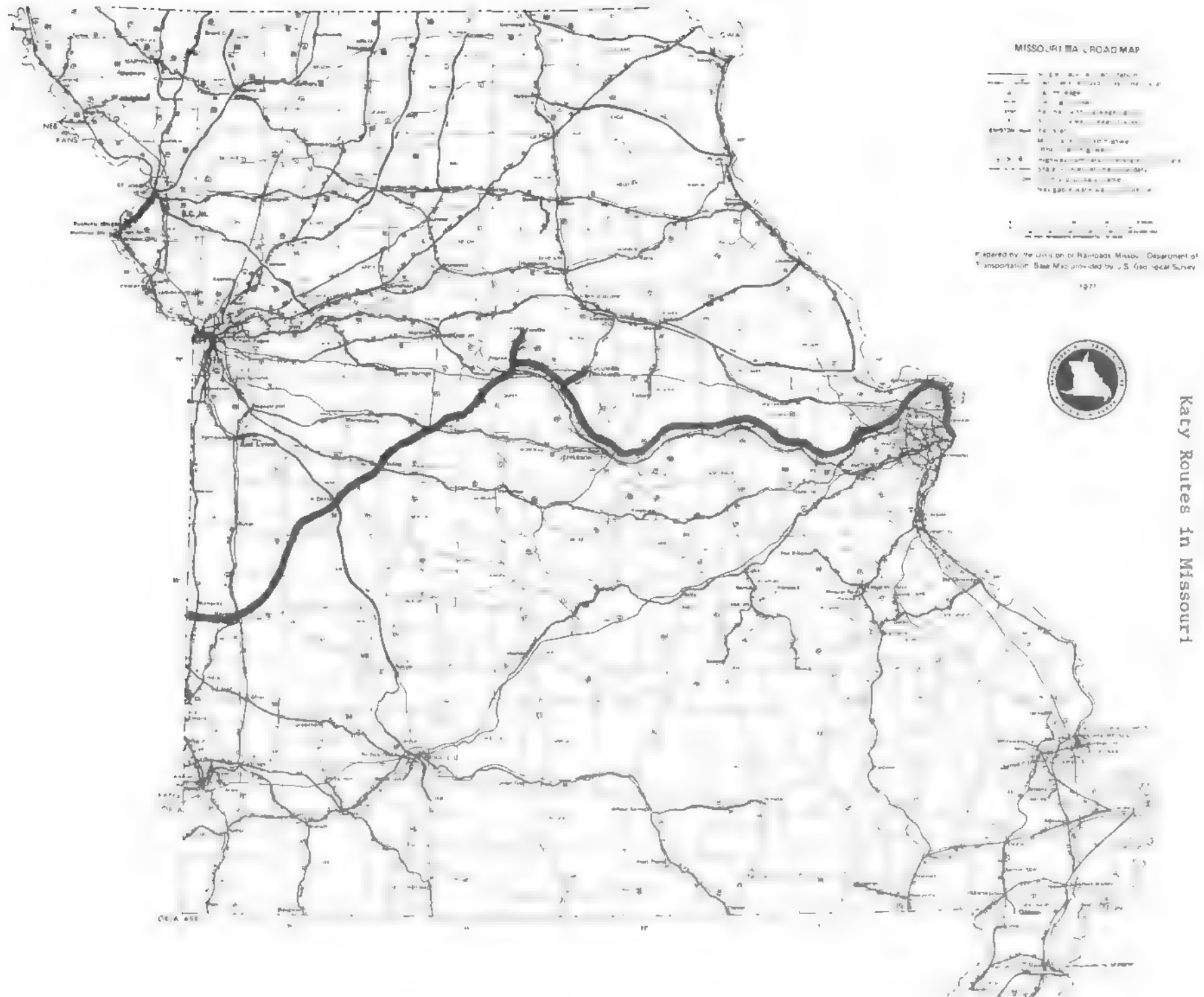


Table 2-8

Summary of Katy Routes

Route Segment	Route Mileage in Mo.	(1)Track Conditon/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
St. Louis to Franklin	189.1	Good. Secondary main line	25/40 mph	1 RT plus local service as required	MoPac	State 94 US 40
Franklin to Parsons, Ks.	144.0	Fair. Seconday main line	25 mph; 10 mph restriction over Mo. River Bridge	1 RT plus local service as required	None	Local roads
II-45 Columbia Jct. to Columbia	8.5	Poor. Minimum use branch line	5 mph	Local service as required	None	None
Franklin to Fayette	10.7	Poor. Minimum use branch line	5 mph	Local service as required	None	State 5
Labette, Ks. to Joplin	6.6	Poor. Low density branch line	10 mph	Tri-weekly	Frisco	Local roads
TOTAL:	358.9					

1. Please refer to pg. II-1 for track condition nomenclature used.

Katy General Fact Sheet

The Katy's principal route in Missouri is a secondary main line between St. Louis, Missouri-Sedalia, Missouri and Fort Scott, Kansas, 333 route miles plus 26 route miles of branches. By main line standards, traffic is light. An average tonnage mix prevails and the Missouri oriented share of the revenue freight tonnage is a high 43.4 percent. Coal traffic is growing and has become an important tonnage source.

(i) PRINCIPAL COMMODITIES ORIGINATED: (for 1975)

COMMODITY	STCC	CARS	PERCENT
Coal	11	5,967	24.5
Farm products	01	5,303	21.8
Non-metallic minerals	14	3,420	14.0
Food products	20	2,349	9.6
Primary metal products	33	2,177	8.9
Chemicals	28	1,642	6.7
Fabricated metal products	34	865	3.6
Miscellaneous mixed (piggyback)	46	559	2.3
Waste and scrap	40	465	1.9
Petroleum and coal products	29	321	1.3
Transportation equipment	37	276	1.1
TOTALS		24,377	95.7

(ii) PRINCIPAL COMMODITIES TERMINATED: (for 1975)

COMMODITY	STCC	CARS	PERCENT
Coal	11	6,266	44.3
Farm products	01	1,724	12.2
Chemicals	28	1,663	11.8
Food products	20	1,135	8.0
Lumber and wood products	24	655	4.6
Primary metal products	33	446	3.2
Stone, clay, glass, concrete	32	444	3.1
Non-metallic minerals	14	348	2.5
Petroleum and coal products	29	304	2.1
Waste and scrap	40	291	2.1
Pulp and paper products	26	288	2.0
TOTALS		14,148	95.9

(iii) TOTAL TONS OF REVENUE FREIGHT: (for 1975)

<u>Total Tons Through Mo.</u>	<u>Originated in Mo.</u>	<u>Terminated in Mo.</u>	<u>Total</u>	<u>Coal Totals</u>
6,573,645	1,729,625	1,120,701	2,850,326	708,013

(iv) CLEARANCE LIMITS AND WEIGHT RESTRICTION LISTINGS:

<u>ROUTE SEGMENT</u>	<u>MAX. ATR* FOR MAX. WIDTH</u>	<u>MAX. WIDTH</u>	<u>MAX. ATR</u>	<u>WIDTH AT MAX ATR</u>	<u>WEIGHT</u>
St. Louis, Mo.- Baden Yard, Mo. (TRRA)	18'06"	11'00"	18'06"	11'00"	263,000
Baden Yard, Mo.- Machens, Mo. (BN)	18'00"	11'00"	19'00"	3'08"	263,000
Machens, Mo.- New Franklin, Mo.	17'03"	12'00"	19'00"	4'00"	263,000
New Franklin, Mo.- Parsons, Ks.	17'03"	12'00"	20'09"	7'05"	263,000
Parsons, Ks.- Joplin, Mo.	17'03"	12'00"	20'03"	8'01"	263,000
New Franklin, Mo.- Fayette, Mo.	17'03"	12'00"	20'03"	5'03"	235,000
McBaine, Mo.- Columbia, Mo.	17'03"	12'00"	20'03"	8'01"	210,000

*ATR--above the rail

(v) PIGGYBACK FACILITIES:

- 1) Jefferson City--ramp
- 2) Kansas City-- ramp
- 3) St. Louis--ramp

(vi) PRINCIPAL YARD LOCATIONS:

- 1) St. Louis--Baden flat switching yard
- 2) New Franklin--Franklin flat switching yard
- 3) Parsons, Ks.--North flat switching yard
- 4) Kansas City, Ks.--Glen Park flat switching yard

Table 2-9

Summary of MoPac Routes

Route Segment	Route Mileage in Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
St. Louis to Poplar Bluff	164.2	Very good/excellent. Original main line to Little Rock	50 mph	1 Amtrak RT, 2 freight RT and ore trains from Pea Ridge for St. Louis	Frisco	I-55 US 67
Valley Jct., Ill. to Poplar Bluff	75.5	Excellent. Very heavy density main line to Little Rock	60 mph	12-15 RT MoPac plus 10-12 RT SSW Valley Jct. to Dexter	Frisco SSW	I-57 I-55
Poplar Bluff to N. Little Rock, Ark.	18.9	Excellent. Heavy density main line to Little Rock	60 mph	1 Amtrak RT, 12-15 RT plus local service	Frisco SSW	I-55 US 67
St. Louis to Kansas City via Sedalia	278.8	Very good/excellent. Across Missouri main line	60 mph	1 Amtrak RT, 8 RT east of River Jct., 5-7 freight trains west of River Jct., plus local service. Unit coal trains east of River Jct.	Rock Island Katy	I-70 US 50

Table 2-9 (continued)

Route Segment	Route Mileage in Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
River Jct. to Neff Yard (Kansas City) via Boonville	158.8	Very good/excellent. Higher density link across Missouri main line	50 mph	5 RT plus locals and extras; also unit coal trains	None	I-70
Pleasant Hill to Cotter, Ark.	208.5	Good. Main line	49 mph	2-3 RT plus local service	Frisco KCS	US 71
St. Louis Terminal	16.4	Fair/good. Terminal operation	30 mph	Road trains, yard and transfer engines	N/A	N/A
Atchison, Ks. to St. Joseph	18.0	Fair/very good. Branch line	50/60 mph (BN main), 10 mph restriction over bridge	Tri-weekly to 6 days depending on season	Rock Island	US 36
Neff Yard (Kansas City) to Osawatomie, Ks.	21.3	Very good/excellent. Main line Kansas City to West and Southwest	60 mph	7-8 RT with numerous extras in grain harvest season	Santa Fe Frisco Katy	None
Nassau Jct. to Coffeyville, Ks.	30.9	Fair. Light density branch line	30 mph	Service as required	None	None
Sweet Springs to Myrick	34.6	Fair. Light density branch line	25 mph	Service as required	None	None

Table 2-9 (continued)

Route Segment	Route Mileage in Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Carthage to Joplin	17.4	Fair/good. Heavy density branch line	30 mph	Local service from Carthage	Frisco	US 66
Aurora to Springfield	29.9	Excellent on Frisco, fair on MoPac. Branch line	55 mph	Local service only	None	US 60
Mineral Pt. to Potosi	3.5	Fair. Light density branch line	20 mph	Service as required	None	County roads
Illmo to Chaffee (track-age rights)	9.0	Very good/excellent. SSW/Frisco main line	50/60 mph	Not being operated at this time	None	County roads
Capedeau to Cape Girardeau	7.4	Good except poor on 3.4 mi. in Cape Girardeau (which is listed on system diagram). Branch line	30 mph on good track 10/5 mph on poor track	Service as required locally plus unit coal trains to Frisco	None	US 61
Neelyville to Doniphan	19.8	Fair. Light density branch line	25 mph	Service as required	None	State 142
Jackson to Charleston to Dexter Jct.	80.3	Fair/good. Moderate traffic branch line	30 mph	Local service only	None	US 60
Cadet to Pea Ridge	26.4	Fair. Serves iron ore mines	30 mph	Unit coal trains	None	State 185

Table 2-9 (continued)

Route Segment	Route Mileage in Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Riverside to Ste. Genevieve to Bismarck	71.5*	Fair. Branch line	25 mph	Service as required	None	US 61 I-55
TOTAL:	1291.1					

1. Please refer to pg. II-1 for track condition nomenclature used.

* 15.42 miles Wiengarten to Hurryville not operated at present.

MoPac General Fact Sheet

This railroad is first in Missouri oriented tonnage volume. A network of main lines and branches cover the lower half of the state. Total route mileage is 1,291.1 of which 999 miles represent main lines. Coal traffic volume to such plants as Union Electric at Labadie, Mo. is substantial. Transportation equipment terminations include heavy movements from a Ford Assembly Plant in Chicago Heights, Ill. and from Detroit, Mich. (connecting at Chicago) to the Kansas City area.

(i) PRINCIPAL COMMODITIES ORIGINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Food products	20	29,085	18.3
Metallic ores	10	24,472	15.4
Farm products	01	21,432	13.5
Transportation equipment	37	8,925	5.6
Chemicals	28	6,134	3.9
Miscellaneous mixed (piggyback)	46	5,001	3.1
Freight forwarder	44	4,885	3.1
Stone, clay, glass, concrete	32	25,771	16.2
Non-metallic minerals	14	6,650	4.2
Primary metal products	33	5,960	3.7
Petroleum and coal products	29	2,762	1.7
Waste and scrap	40	2,995	1.9
Fabricated metal products	34	2,216	1.4
Lumber and wood products	24	2,127	1.3
Machinery except electrical	35	1,984	1.3
Shipper Association	45	1,929	1.2
<u>TOTALS</u>		<u>159,328</u>	<u>95.8</u>

(ii) PRINCIPAL COMMODITIES TERMINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Coal	11	68,735	40.1
Transportation equipment	37	14,914	8.7
Food products	20	13,358	7.8
Farm products	01	12,798	7.5

Chemicals	28	10,258	6.0
Metallic ores	10	12,360	7.2
Stone, clay, glass, concrete	32	9,885	5.8
Pulp and paper products	26	4,713	2.8
Miscellaneous mixed (piggyback)	46	4,323	2.5
Lumber and wood products	24	3,812	2.2
Non-metallic minerals	14	3,653	2.1
Petroleum and coal products	29	4,482	2.6
Primary metal products	33	3,220	1.9
Waste and scrap	40	1,950	1.1
Fabricated metal products	34	1,706	1.0
Shipper Association	45	1,348	0.8
<u>TOTALS</u>		<u>171,515</u>	<u>100.0</u>

(iii) TOTAL TONS OF REVENUE FREIGHT: (for 1975)

<u>Total Tons Through Mo.</u>	<u>Originated in Mo.</u>	<u>Terminated in Mo.</u>	<u>Total</u>	<u>Coal Totals</u>
47,484,522	9,747,727	12,864,195	22,611,922	8,698,620

(iv) CLEARANCE LIMITS AND WEIGHT RESTRICTION LISTINGS:

<u>ROUTE SEGMENT</u>	<u>MAX. ATR* FOR MAX. WIDTH</u>	<u>MAX. WIDTH</u>	<u>MAX. ATR</u>	<u>WIDTH AT MAX. ATR</u>	<u>WEIGHT</u>
Kirkwood, Mo.- Jefferson City, Mo.	A 17'00" B 16'00"	11'00" 13'00"	21'06" 21'06"	4'06" 4'06"	315,000
Jefferson City, Mo.- Sedalia, Mo.	A 19'00" B 19'00"	11'00" 13'00"	19'06" 19'06"	10'00" 13'00"	315,000
Sedalia, Mo.- Pleasant Hill, Mo.	A 19'00" B 19'00"	11'00" 13'00"	19'00" 19'00"	11'00" 13'00"	315,000
Pleasant Hill, Mo.- Kansas City, Mo.	A 19'00" B 20'00"	11'00" 13'00"	20'00" 20'00"	9'00" 13'00"	315,000
Jefferson City, Mo.- Myrick, Mo.	A 17'00" B 17'00"	11'00" 11'02"	19'06" 19'06"	8'08" 8'08"	315,000
Myrick, Mo.- Kansas City, Mo.	A 19'00" B 18'06"	11'00" 13'00"	21'06" 21'06"	6'00" 7'07"	315,000

<u>ROUTE SEGMENT</u>	<u>MAX. ATR* FOR MAX. WIDTH</u>	<u>MAX. WIDTH</u>	<u>MAX. ATR</u>	<u>WIDTH AT MAX. ATR</u>	<u>WEIGHT</u>
Marshall Industrial Lead	A 19'00" B 21'06"	11'00" 13'00"	21'06" 21'06"	6'00" 13'00"	315,000
Myrick, Mo.- Sweet Springs, Mo.	A 18'00" B 18'00"	11'00" 13'00"	18'00" 18'00"	11'00" 13'00"	315,000
Pleasant Hill, Mo.- Rich Hill, Mo.	A 17'00" B 7'00"	11'00" 13'00"	21'00" 21'00"	4'08" 4'08"	315,000
Rich Hill, Mo.- Nevada, Mo.	A 18'00" B 8'06"	11'00" 13'00"	21'06" 21'06"	5'03" 5'03"	315,000
Nevada, Mo.- Cornell, Ks.	A 19'00" B 21'06"	11'00" 13'00"	21'06" 21'06"	6'00" 13'00"	315,000
Nevada, Mo.- Carthage, Mo.	A 19'00" B 21'06"	11'00" 13'00"	21'06" 21'06"	6'00" 13'00"	315,000
Carthage, Mo.- Joplin, Mo.	A 18'00" B 18'00"	11'00" 13'00"	18'06" 18'06"	9'01" 9'01"	315,000
Atlas, Mo./Oronogo, Mo. branches	A 19'00" B 21'06"	11'00" 13'00"	21'06" 21'06"	6'00" 13'00"	315,000
Carthage, Mo.- Aurora, Mo.	A 19'00" B 18'00"	11'00" 13'00"	21'00" 21'00"	7'07" 7'07"	315,000
Aurora, Mo.- Diaz, Ark.	A 8'06" B 7'00"	11'00" 13'00"	19'00" 19'00"	5'07" 5'07"	315,000
Riverside, Mo.- Bismarck, Mo.	A 21'06" B 21'06"	11'00" 13'00"	21'06" 21'06"	11'00" 13'00"	315,000
Bismarck, Mo.- Poplar Bluff, Mo.	A 18'00" B 8'06"	11'00" 13'00"	21'00" 21'00"	6'11" 6'11"	315,000
Poplar Bluff, Mo.- Knobel, Ark.	A 18'00" B 17'06"	11'00" 13'00"	21'06" 21'06"	4'08" 4'08"	315,000
Doniphan, Mo. branch	A 18'06" B 8'00"	11'00" 13'00"	18'06" 18'06"	11'00" 12'08"	220,000
Potosi, Mo. branch	A 19'00" B 18'00"	11'00" 13'00"	21'06" 21'06"	6'00" 9'00"	240,000
Pea Ridge, Mo. branch	A 19'00" B 21'06"	11'00" 13'00"	21'06" 21'06"	6'00" 13'00"	315,000

ROUTE SEGMENT	MAX. ATR* FOR MAX. WIDTH	MAX. WIDTH	MAX. ATR	WIDTH AT MAX ATR	WEIGHT
Thebes, Mo.- Illmo, Mo.	A 19'00" B 19'06"	11'00" 13'00"	21'06" 21'06"	6'00" 10'02"	315,000
Capedeau, Mo.- Cape Girardeau, Mo.	A 14'00" B 8'06"	11'00" 13'00"	16'00" 16'00"	3'05" 3'05"	315,000
Charleston, Mo.- Dexter Junction, Mo.	A 19'00" B 21'06"	11'00" 13'00"	21'06" 21'06"	6'00" 13'00"	315,000
Dexter Jct., Mo.- Poplar Bluff, Mo.	A 19'00" B 8'06"	11'00" 13'00"	21'06" 21'06"	5'11" 5'11"	315,000
Charleston, Mo.- SSW Crossing	A 19'00" B 21'06"	11'00" 13'00"	21'06" 21'06"	6'00" 13'00"	315,000
SSW Crossing- Allenville, Mo.	A 19'00" B 18'06"	11'00" 13'00"	21'06" 21'06"	3'02" 3'02"	220,000
Allenville, Mo.- Jackson, Mo.	A 18'00" B 18'00"	11'00" 13'00"	18'00" 18'00"	11'00" 13'00"	220,000
Allenville, Mo.- White Water, Mo.	A 8'06" B 2'00"	11'00" 12'05"	15'00" 15'00"	9'02" 9'02"	220,000
MoPac Track Rights on SSW	A 19'00" B 19'06"	11'00" 13'00"	21'06" 21'06"	6'00" 10'02"	315,000
Rock Creek, Mo.- Neff Yard	A 19'00" B 18'00"	11'00" 13'00"	20'00" 20'00"	9'00" 10'06"	315,000
(a) Neff Yard- State Line Yard	A 19'00" B 2'00"	11'00" 12'07"	19'00" 19'00"	11'00" 12'00"	315,000
(a) Neff Yard- Edgewater Jct., Ks.	A 19'00" B 8'06"	11'00" 13'00"	21'06" 21'06"	6'00" 8'00"	315,000
Neff Yard- Leeds, Mo.	A 19'00" B 18'00"	11'00" 13'00"	21'00" 21'00"	7'00" 7'02"	315,000
Leeds, Mo.- Osawatomie, Ks.	A 19'00" B 8'06"	11'00" 13'00"	21'00" 21'00"	7'00" 8'02"	315,000
Lesperance Yard- 12th Street Yard	A 19'00" B 19'00"	11'00" 13'00"	19'00" 19'00"	11'00" 13'00"	315,000
12th Street Yard- MacArthur Bridge	A 18'00" B 16'06"	11'00" 13'00"	19'06" 19'06"	4'11" 4'11"	315,000

ROUTE SEGMENT	MAX. ATR* FOR MAX. WIDTH	MAX. WIDTH	MAX. ATR	WIDTH AT MAX. ATR	WEIGHT
Tower Grove, Mo.- Kirkwood, Mo.	A 19'00" B 15'06"	11'00" 13'00"	20'00" 20'00"	9'00" 9'00"	315,000
Ivory Yard- Tower Grove, Mo.	A 16'00" B 8'06"	11'00" 13'00"	16'00" 16'00"	11'00" 11'11"	315,000
Ivory Yard- Kirkwood, Mo.	A 19'00" B 20'00"	11'00" 13'00"	20'00" 20'00"	9'00" 13'00"	315,000
Bridge Cut-off- Lesperance St. Yard	A 18'00" B 16'06"	11'00" 13'00"	20'00" 20'00"	7'00" 7'00"	315,000
Springfield, Mo.- Battlefield, Mo.	A 19'00" B 21'06"	11'00" 13'00"	21'06" 21'06"	6'00" 13'00"	315,000
Bismarck, Mo.- Thomure, Mo.	19'00"	11'00"	21'06"	6'00"	315,000
Riverside, Mo.- Festus, Mo.	19'00"	11'00"	21'06"	6'00"	315,000
Bonne Terre, Mo.- Derby Jct. Mo.	19'00"	11'00"	21'06"	6'00"	315,000

*ATR--above the rail

(a) Short segment of common track leaving Neff Yard.

(v) PIGGYBACK FACILITIES:

- 1) Cape Girardeau--ramp
- 2) Carthage--ramp
- 3) Jefferson City--ramp
- 4) Joplin--ramp
- 5) Kansas City--ramp, crane
- 6) Nevada--ramp
- 7) Poplar Bluff--ramp
- 8) St. Joseph--ramp
- 9) St. Louis--ramp, crane
- 10) Sedalia--ramp
- 11) Springfield--ramp
- 12) Tipton--ramp
- 13) Dupon, Ill.--ramp

(vi) PRINCIPAL YARD LOCATIONS:

- 1) St. Louis--Lesperance Street flat switching yard
- 2) St. Louis--12th/21st Street flat switching yard
- 3) Kansas City--Neff hump yard
- 4) Poplar Bluff--flat switching yard
- 5) Bismarck--flat switching yard
- 6) Ste. Genevieve--flat switching yard

Figure 2-10
N&N Routes in Missouri

Table 2-10

Summary of N&W Routes

Route Segment	Route Mileage in Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Hannibal to Moberly	70.0	Good. Moderate density main line Illinois to Kansas City	60 mph	6 RT plus ex-tras and locals when required	BN	US 36 US 24
St. Louis to Moberly	147.1	Very good. St. Louis connector to East-West main line and Iowa points	60 mph	2 RT plus extras and locals when required	BN ICG	I-70 US 54 US 63 State 19 State 22
19-11 Moberly to Kansas City	131.0	Very good/excellent. Moderate density main line Illinois to Kansas City	60 mph	9 RT Moberly-Brunswick and 8 RT Bruns- wick-Kansas City plus ex-tras and locals when required	BN MoPac Santa Fe	US 24 State 10
Centralia to Columbia	21.7	Fair/poor. Minimum use branch line	10/30 mph	Service as required	None	None
Kelly (Brunswick) to Council Bluffs, Ia.	156.1	Fair. Branch line to Nebraska	30/35 mph	1 RT plus locals and extras when required	None	US 136

Table 2-10 (continued)

Route Segment	Route Mileage in Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
II-62 Moberly to Moulton, Ia.	88.0	Fair. Branch line to Iowa	35 mph	1 RT plus locals and extras when required	None	US 63
TOTAL:	613.9					

1. Please refer to pg. II-1 for track condition nomenclature used.

N&W General Fact Sheet

The Norfolk and Western has two main lines in Missouri. One enters the state at Hannibal and proceeds via Moberly and Brunswick to Kansas City. This is a through route from the Chicago and Detroit areas and the East Coast. The other main line connects St. Louis with Moberly. Two rather lengthy branch lines spur off, one to Des Moines, Iowa, the other to Omaha, Nebraska. Total Missouri mileage is 614 with 348 route miles representing main line trackage. The N&W has a substantial volume of bridge traffic aggregating 450 cars per day. It also has a considerable proportion of its total volume, 44.8 percent of revenue tonnage which is Missouri oriented. For many years the main cross state route has enjoyed an excellent movement of auto parts and finished automobiles, with Detroit and Kansas City as two prime terminals. Inbound automobile parts and auto traffic amount to about 80 carloads per day averaged.

(i) PRINCIPAL COMMODITIES ORIGINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Transportation equipment	37	16,004	32.3
Food products	20	7,613	15.4
Farm products	01	5,693	11.5
Stone, clay, glass, concrete	32	5,239	10.6
Non-metallic minerals	14	2,988	6.0
Waste and scrap	40	1,617	3.3
Small packaged freight	47	1,597	3.2
Coal	11	1,376	2.8
Miscellaneous mixed (piggyback)	46	1,304	2.6
Chemicals	28	1,023	2.1
Lumber and wood products	24	750	1.5
Primary metal products	33	601	1.2
Pulp and paper	26	572	1.1
Electrical machinery	36	490	1.0
Machinery except electrical	35	408	0.8
<u>TOTALS</u>		<u>49,536</u>	<u>95.4</u>

(ii) PRINCIPAL COMMODITIES TERMINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Transportation equipment	37	29,456	41.3
Farm products	01	7,434	10.4
Food products	20	6,244	8.7
Pulp and paper products	26	3,815	5.3
Lumber and wood products	24	3,610	5.1
Chemicals	28	2,922	4.1
Coal	11	2,307	3.2
Stone, clay, glass, concrete	32	2,104	2.9
Small packaged freight	47	1,765	2.5
Non-metallic minerals	14	1,614	2.3
Primary metal products	33	1,435	2.0
Furniture and fixtures	25	1,434	2.0
Rubber and plastic products	30	1,227	1.7
Fabricated metal products	34	984	1.4
Waste and scrap	40	816	1.1
<u>TOTALS</u>		<u>71,404</u>	<u>94.0</u>

(iii) TOTAL TONS OF REVEUE FREIGHT: (for 1975)

<u>Total Tons Through Mo.</u>	<u>Originated in Mo.</u>	<u>Terminated in Mo.</u>	<u>Total</u>	<u>Coal Totals</u>
10,600,465	2,002,499	2,751,773	4,754,272	329,889

(iv) CLEARANCE LIMITS AND WEIGHT RESTRICTION LISTINGS:

<u>ROUTE SEGMENT</u>	<u>MAX. ATR* FOR MAX. WIDTH</u>	<u>MAX. WIDTH</u>	<u>MAX. ATR</u>	<u>WIDTH AT MAX. ATR</u>	<u>WEIGHT</u>
East Hannibal, Mo.- Hannibal, Mo.	17'09"	11'06"	19'06"	9'00"	315,000
Hannibal, Mo.- Moberly, Mo.	20'03"	11'06"	21'03"	6'06"	315,000
Moberly, Mo.- Kelly, Mo.	20'09"	11'06"	20'09"	11'06"	315,000
Kelly, Mo.- No. Kansas City, Mo.	17'09"	11'06"	19'06"	8'00"	315,000

<u>ROUTE SEGMENT</u>	<u>MAX. ATR* FOR MAX. WIDTH</u>	<u>MAX. WIDTH</u>	<u>MAX. ATR</u>	<u>WIDTH AT MAX. ATR</u>	<u>WEIGHT</u>
N. Kansas City, Mo.- Kansas City, Mo.	18'09"	11'06"	19'06"	10'00"	315,000
Kelly, Mo.- Council Bluffs, Ia.	11'06"	11'06"	19'03"	4'03"	220,000
Moberly, Mo.- Moulton, Ia.	21'06"	11'06"	21'06"	11'06"	263,000
St. Louis, Mo.- Centralia, Mo.	19'06"	11'06"	19'06"	11'06"	315,000
Centralia, Mo.- Moberly, Mo.	21'06"	11'06"	21'06"	11'06"	315,000
Centralia, Mo.- Columbia, Mo.	21'06"	11'06"	21'06"	11'06"	250,000

*ATR--above the rail

(v) PIGGYBACK FACILITIES:

- 1) Kansas City--ramp
- 2) Moberly--ramp
- 3) St. Louis--piggybacker

(vi) PRINCIPAL YARD LOCATIONS:

- 1) Moberly--flat switching yard
- 2) St. Louis--Luther flat switching yard
- 3) North Kansas City--Avondale flat switching yard

Figure 2-11
Prisco Routes in Missouri

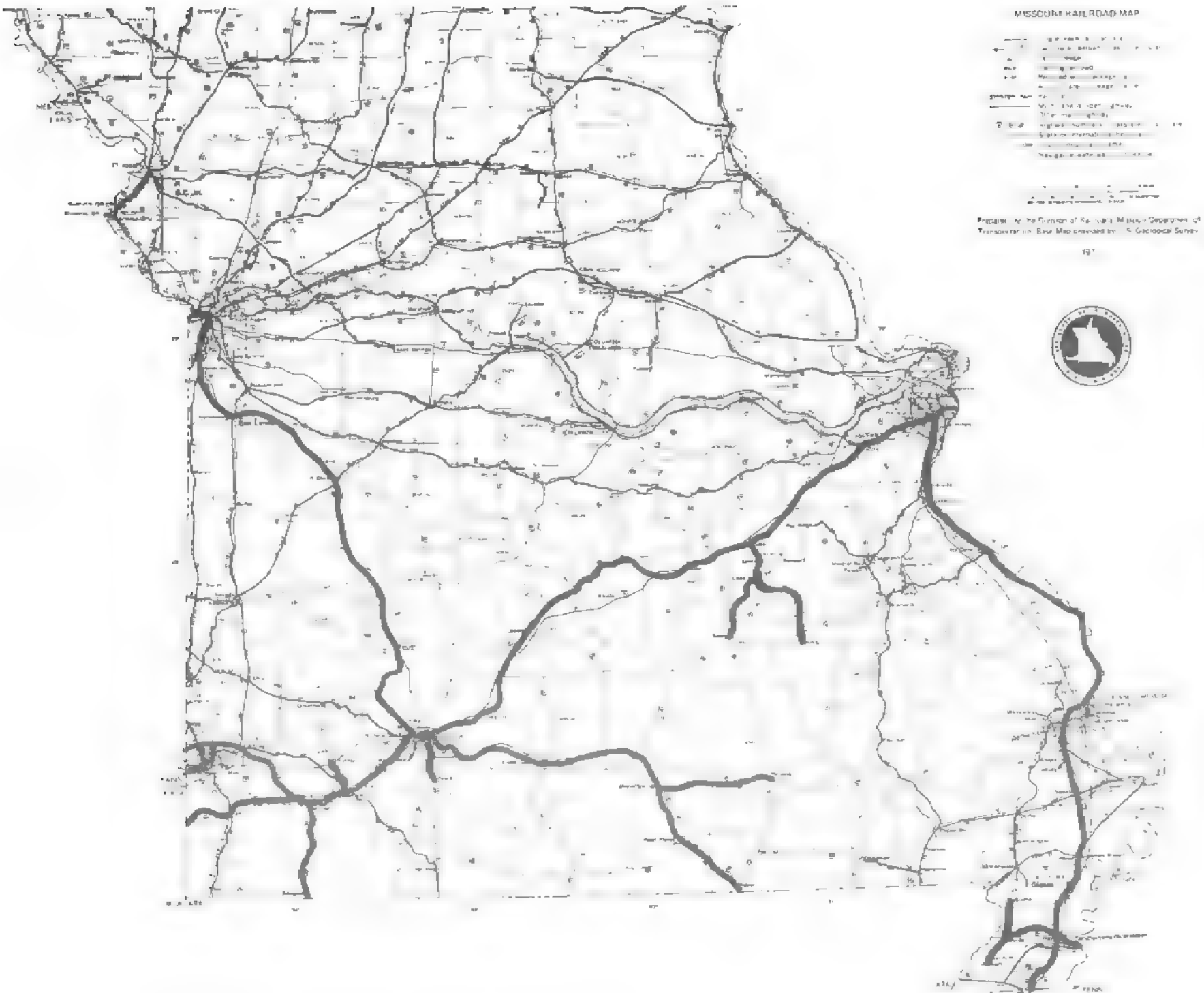


Table 2-11

Summary of Frisco Routes

Route Segment	Route Mileage (1) in Mo.	Track Condition/ Route Function	Max. Speed Allowed	Daily Movement	Parallel Railroads	Parallel Highways
St. Louis (Lindenwood) to Chaffee	136.5	Good/excellent. Main line to Memphis	50 mph	3 RT plus 1 6-day train, a tri-weekly local and extras as required	MoPac	I-55 US 61
Chaffee to Turrell, Ark.	86.4	Good/very good. Main line to Memphis	50 mph	4 RT plus locals and extras as required	SSW MoPac	I-55 US 61
II-67 Kansas City to Springfield	191.8	Fair. Branch line	35 mph	Tri-weekly local on each of the 2 line seg- ments	None	US 71 State 7 State 13
Ft. Scott, Ks. to Springfield	83.6	Very good/excellent. Main line Kansas City to Memphis	55 mph	4 RT plus line cover- age by 6-day locals. Extras as required	None	None
St. Louis to Springfield	239.7	Good/excellent. Main line to Oklahoma	55 mph	4 RT plus line cover- age by 6-day locals. Extras as required	None	I-44 (US 66)

Table 2-11 (continued)

Route Segment	Route Mileage in Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Springfield to Thayer	141.1	Good/excellent. Main line Kansas City to Memphis	55 mph	7 RT plus coverage by 6-day locals. Extras as required	None	US 60 US 63
Springfield to Monett	42.3	Excellent/very good. Main line St. Louis to Oklahoma	55/60 mph	8 RT plus 6-day locals and extras as required	None	I-44 US 60
Monett to Tulsa, Okla.	43.4	Excellent/very good. Main line St. Louis to Oklahoma	55/60 mph	8 RT to Pierce City and 6 RT beyond plus 6-day local turn and extras as required; 2 additional RT beyond Afton, Okla.	None	I-44 US 60
Monett to Ft. Smith, Ark.	33.7	Fair/good. Major branch line Missouri to western Arkansas	40 or less mph	1 RT plus 6-day RT local Monett-Fayetteville, Ark.	None	State 37
Pierce City to Neodesha, Ks.	45.2	Fair/good. Branch line	40 mph; some 20 mph	2 RT plus extras as required	MoPac	None

Table 2-11 (continued)

	Route Segment	Route Mileage (1) in Mo.	Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
69-II	Carl Jct. to J & G Jct. and Oronogo to Baxter Springs, Ks.	24.0	Fair. Local service	25 mph	Pair of 6- day switchers	MoPac Katy KCS	US 66, other area highways
	Springfield to Ozark	17.4	Good from Spring- field to Kissick (9.1 mi.), fair beyond that. Light density branch line	10/25 mph	Coal move- ments Spring- field to Kissick; service be- yond as needed	None	US 65
	Aurora to Mt. Vernon	11.7	Poor. Minimum service branch line	10 mph	Service as needed	None	State 39
	Cuba to Buick to Salem	72.3	Fair. Active branch line	25 mph	2 RT 6-day locals plus 6-day road switcher out of Viburnum	None	State 19
	Willow Springs to Winona	37.9	Fair. Light density branch line	25 mph	6-day service as required	None	US 60
	Brooks Jct. to Vanduser	3.4	Poor. Minimum use branch line	10 mph	Bi-weekly when required	None	None
	Caruthersville to Kennett	24.9	Fair. Branch line	25/20 mph	As required; 6 days in peak periods	SSW	State 84
	Kennett to Holcomb	12.0	Poor. N/A	20 mph	This line is not being op- erated at this time	N/A	N/A

Table 2-11 (continued)

Route Segment	Route Mileage (1) in Mo.	Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
Kennett to Senath	9.1	Poor. N/A	20 mph	This line is not being operated at this time.	N/A	N/A
TOTALS:	1256.4*					

* Not included in above totals is the 6.6 miles within Missouri segment of the 63.7 miles, Arcadia, Ks. to Dennis (Pittsburg) Ks. Arcadia Branch.

1. Please refer to pg. II-1 for track condition nomenclature used.

Frisco General Fact Sheet

This is the second largest volume carrier in terms of Missouri oriented carloads. Two main lines from St. Louis and one from Kansas City effectively crisscross the southern half of the state. A main line mileage of 773 is supplemented by 483.4 miles of branches for a total of 1256.4 route miles within the state. This railroad commodity movement pattern is relatively conventional for the most part. There is a very substantial origination of automobiles and auto parts both at Kansas City and St. Louis. For the year of 1975, the Frisco originated 14,000 carloads of automobiles and trucks at Valley Park (St. Louis) and 600 at Kansas City. Coal deliveries within Missouri average more than 50 carloads per day on a 300 day per year basis. A key coal traffic destination is Rush Island via a Frisco-MoPac run through at Cape Girardeau. Another commodity grouping, not observed in volume for any of the other area carriers, is textile mill products. The Frisco is currently involved with the BN in merger proceedings, original application was submitted to the ICC December 28, 1977.

(1) PRINCIPAL COMMODITIES ORIGINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Food products	20	24,248	28.0
Transportation equipment	37	16,230	18.7
Pulp and paper products	26	8,145	9.4
Farm products	01	7,986	9.2
Stone, clay, glass, concrete	32	5,552	6.4
Chemicals	28	4,379	5.1
Non-metallic minerals	14	2,880	3.3
Fabricated metal products	34	2,457	2.8
Waste and scrap	40	2,422	2.8
Lumber and wood products	24	2,006	2.3
Electrical machinery	36	2,005	2.3
Petroleum and coal products	29	1,810	2.1
Miscellaneous mixed (piggyback)	46	1,333	1.5
Primary metal products	33	1,219	1.4
Metallic ores	10	1,170	1.3
Freight Forwarder	44	779	0.9
<u>TOTALS</u>		<u>86,608</u>	<u>97.5</u>

(ii) PRINCIPAL COMMODITIES TERMINATED: (for 1975)

COMMODITY	STCC	CARS	PERCENT
Food products	20	23,443	24.3
Coal	11	15,952	16.6
Pulp and paper products	26	8,901	9.2
Lumber and wood products	24	6,552	6.8
Chemicals	28	6,402	6.6
Stone, clay, glass, concrete	32	4,614	4.8
Non-metallic minerals	14	4,346	4.5
Farm products	01	4,063	4.2
Furniture and fixtures	25	3,863	4.0
Petroleum and coal products	29	3,579	3.7
Transportation equipment	37	2,601	2.7
Primary metal products	33	2,454	2.5
Miscellaneous mixed (piggyback)	46	1,698	1.8
Waste and scrap	40	1,373	1.4
Textile mill products	22	1,270	1.3
Rubber and plastic products	30	1,045	1.1
Metallic ores	10	868	0.9
Fabricated metal products	34	865	0.9
TOTALS		96,299	97.3

(iii) TOTAL TONS OF REVENUE FREIGHT: (for 1975)

Total Tons Through Mo.	Originated in Mo.	Terminated in Mo.	Total	Coal Totals
23,163,243	3,385,399	4,923,420	8,308,819	683,026

(iv) CLEARANCE LIMITS AND WEIGHT RESTRICTION LISTINGS:

ROUTE SEGMENT	MAX. ATR* FOR MAX. WIDTH	MAX. WIDTH	MAX. ATR	WIDTH AT MAX. ATR	WEIGHT
Monett, Mo.- Fort Smith, Ark.	18'06"	11'06"	20'00"	9'05"	263,000
Baxter Springs, Mo.- Joplin, Mo.	18'03"	11'06"	20'00"	8'10"	263,000
Joplin, Mo.- Carthage, Mo.	18'03"	11'06"	18'06"	7'06"	263,000

St. Louis, Mo.- Bridge Jct. (Memphis) ¹	17'06"	11'06"	20'00"	8'00"	263,000
Hayti, Mo.- Kennett, Mo.- Holcomb, Mo.- Senath, Mo.	16'09"	11'06"	20'00"	6'02"	263,000
St. Louis, Mo.- Afton, Okla.	19'03"	11'06"	19'06"	9'07"	263,000
Cuba, Mo.-Salem, Mo.-Buick, Mo.	16'09"	11'06"	20'00"	6'05"	220,000
Kansas City, Mo.- Springfield, Mo.	18'00"	11'00"	20'00"	7'09"	220,000
Fort Scott, Ks.- Springfield, Mo.	19'06"	11'06"	20'00"	10'04"	263,000
Springfield, Mo.- Ozark, Mo.	19'00"	11'06"	20'00"	10'05"	263,000

¹Mississippi River Bridge at Memphis is at 19'03" - 11'00" wide to 19'06"-
5'00" extreme height.

*ATR-above the rail

(v) PIGGYBACK FACILITIES:

- 1) Cape Girardeau--ramp
- 2) Carthage--ramp
- 3) Crystal City--ramp
- 4) Joplin--ramp
- 5) Kansas City--ramp
- 6) Lamar--ramp
- 7) Monett--ramp
- 8) Neosho--ramp
- 9) St. Louis--ramp
- 10) Springfield--ramp
- 11) Blytheville, Ark.--ramp
- 12) Fayetteville, Ark.--ramp
- 13) Jonesboro, Ark.--ramp
- 14) West Plains--ramp
- 15) Osceola, Ark.--ramp
- 16) Rogers, Ark.--ramp
- 17) Trumann, Ark.--ramp
- 18) Miami, Okla.--ramp

(vi) PRINCIPAL YARD LOCATIONS:

- 1) St. Louis--Ewing flat switching yard
- 2) St. Louis--Lindenwood flat switching yard
- 3) Springfield--flat switching yard
- 4) Chaffee--flat switching yard
- 5) Kansas City, Ks.--Rosedale flat switching yard

Figure 2-12

SSW Routes in Missouri

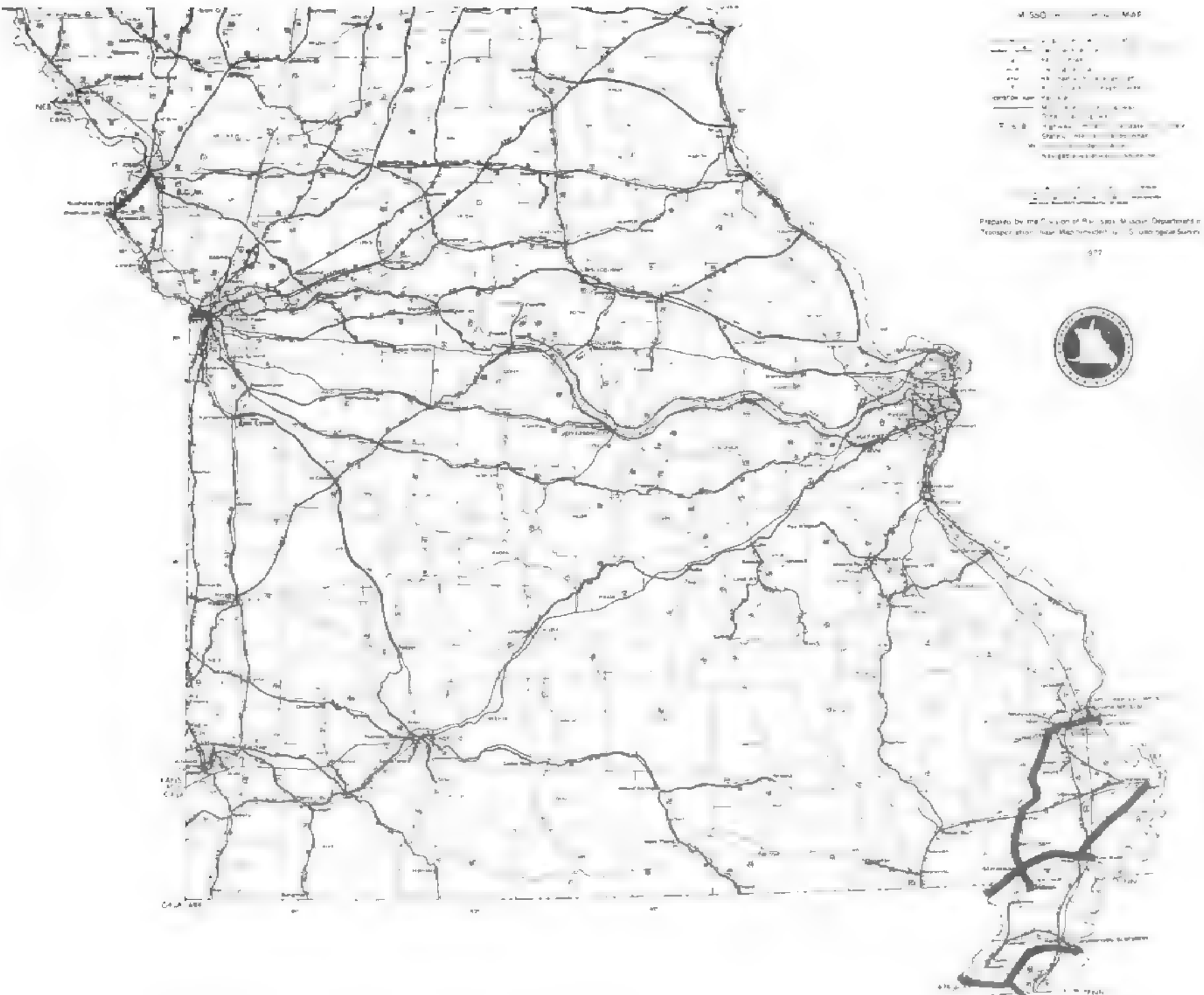


Table 2-12

Summary of SSW Routes

Route Segment	Route Mileage in Mo.	(1)Track Condition/ Route Function	Max. Speed Allowed	Daily Movements	Parallel Railroads	Parallel Highways
East St. Louis to Jonesboro, Ark.	76.0	Excellent. Main line to Texas	55/70 mph	10-12 SSW trains RT plus similar MoPac movements	Frisco	US 61 State 91 State 25
Malden to New Madrid	26.4	Fair. Light density branch line	25/30 mph	Daily except Sunday local freight	Frisco	US 62
Lilbourn to Wyatt	31.7	Fair/poor. Minimum density branch line	20/30 mph	Local service as required	Frisco MoPac	County roads
Malden to Gideon	8.7	Fair/poor. Light density branch line	20 mph	Service as required	SSW	State 162
Paragould to Blytheville	21.4	Fair. Branch line	25/35 mph	Daily except Sunday	None	State 164
Hornersville Jct. to Caruthersville	28.8	Fair/poor. Branch line	20/25 mph	Daily except Sunday	Frisco	County roads
TOTAL:	193.0					

1. Please refer to pg. II-1 for track condition nomenclature used.

SSW General Fact Sheet

The SSW's main line trains originate on the MoPac at East St. Louis, Illinois. Crossing into Missouri at Illmo, the SSW then turns southwest on its own trackage to Paragould, Arkansas. Main line mileage is only 76, branch line mileage in the Missouri Bootheel is 117. Missouri oriented traffic percentages are relatively low at 8.8 percent of total revenue tonnage handled primarily because of the lack of coverage of principal centers. Other than for a very substantial forwarder and auto parts traffic handled in the Blue Streak Merchandise freight trains, there are no special situation movements to be noted.

(i) PRINCIPAL COMMODITIES ORIGINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Food products	20	3,999	25.1
Forwarder traffic	44	3,695	23.2
Farm products	01	2,958	18.5
Transportation equipment	37	2,688	16.9
Primary metal products	33	582	3.6
Machinery except electrical	35	407	2.6
Miscellaneous mixed (piggyback)	46	344	2.2
Shipper Association	44	298	1.9
Lumber and wood products	24	275	1.7
Stone, clay, glass, concrete	32	239	1.5
Chemicals	28	196	1.2
<u>TOTALS:</u>		<u>15,947</u>	<u>98.4</u>

(ii) PRINCIPAL COMMODITIES TERMINATED: (for 1975)

<u>COMMODITY</u>	<u>STCC</u>	<u>CARS</u>	<u>PERCENT</u>
Food products	20	1,389	19.9
Petroleum and coal products	29	1,265	18.1
Containers returned empty	42	822	11.8
Chemicals	28	742	10.6
Lumber and wood products	24	445	6.4
Pulp and paper products	26	442	6.3
Freight Forwarder	44	366	5.3
Farm products	01	280	4.0

Primary metal products	33	220	3.2
Fabricated metal products	34	187	2.7
Stone, clay, glass, concrete	32	161	2.3
Miscellaneous mixed (piggyback)	46	124	1.8
<u>TOTALS:</u>		<u>6,971</u>	<u>92.4</u>

(iii) TOTAL TONS OF REVENUE FREIGHT: (for 1975)

<u>Total Tons</u> <u>Through Mo.</u>	<u>Originated</u> <u>in Mo.</u>	<u>Terminated</u> <u>in Mo.</u>	<u>Total</u> <u>----</u>	<u>Coal</u> <u>Totals</u>
11,541,060	659,707	352,260	1,011,967	6,693

(iv) CLEARANCE LIMITS AND WEIGHT RESTRICTION LISTINGS:

<u>ROUTE</u> <u>SEGMENT</u>	<u>MAX. ATR* FOR</u> <u>MAX. WIDTH</u>	<u>MAX.</u> <u>WIDTH</u>	<u>MAX.</u> <u>ATR</u>	<u>WIDTH AT</u> <u>MAX. ATR</u>	<u>WEIGHT</u> <u>---</u>
Illinois-	A 20'00"	12'00"	20'00"	12'00"	
Malden, Mo.	B 19'09"	13'00"	20'00"	12'09"	315,000
Malden, Mo.-	A 18'03"	12'00"	20'00"	9'06"	
Paragould, Ark.	B 17'03"	13'00"	20'00"	9'06"	315,000
Paragould, Ark.-	A 20'00"	12'00"	20'00"	12'00"	
Blytheville, Ark.-	B 20'00"	13'00"	20'00"	13'00"	242,000
Caruthersville, Mo.					
Malden, Mo.-	A 20'00"	12'00"	20'00"	12'00"	
Gideon, Mo.	B 20'00"	13'00"	20'00"	13'00"	242,000
Malden, Mo.- New	A 20'00"	12'00"	20'00"	12'00"	
Madrid, Mo.-	B 20'00"	13'00"	20'00"	13'00"	315,000 ¹
Wyatt, Mo.					

¹Lilbourn, Mo.- Wyatt, Mo.- 242,000

* ATR--above the rail

(v) PIGGYBACK FACILITIES:

- 1) Blytheville, Ark.--ramp
- 2) East St. Louis, Ill.--piggybacker

(vi) PRINCIPAL YARD LOCATIONS:

- 1) Illmo, Mo.—flat switching yard
- 2) East St. Louis, Ill.--flat switching yard

Traffic Density 266.15 (c)(2)(ii)

Traffic density is a common and readily available measure of a states' rail network usage, it is generally defined in terms of the amount of gross tonnage (which includes the weight of the train itself and the cargo) carried over the line. Traffic densities, in terms of gross ton miles per mile (gross tons) for the Missouri rail network are illustrated on Figure 2-13 and 2-14.

In order to differentiate various traffic densities, the Missouri rail network has been broken into four main categories, which include:

<u>Line Designation</u>	<u>Million Annual Gross Tons</u>	<u>Route Mileage in Mo.</u>	<u>Percent of Mo. Route Mileage</u>
B Branch	Less than 1	1206.5	19.8
A Branch	1 to 5	1021.9	16.7
B Main	5 to 20	2396.7	39.2
A Main	20 and above	1486.0	24.3
	<u>TOTALS:</u>	<u>6111.1</u>	<u>100.0</u>

Freight Movement 266.15 (d)--In any study of freight movement in transportation, detailed information on origin and destination of commodity movements is difficult to obtain. Along commodity flow networks, transported goods are often processed or repackaged in-transit, or they may be transferred from one mode of transportation to another enroute.

Information was gathered for 2 years (1970 and 1974) on the volume of rail shipments originating and terminating in Missouri on Class I railroads, classified by major commodity groups. From this information it is possible to gain some insight into the commodity mix being transported into Missouri by rail. Table 2-13 shows rail shipments originating in Missouri for 1970 and 1974 while Figure 2-15 shows a breakdown for 1974; these figures emphasize the role of this state as a major producer and processor of agricultural products. Table 2-14 shows rail shipments terminating in Missouri and Figure 2-16 gives a breakdown of these commodities for 1974. In both these years, the 11 listed commodity groups accounted for more than 90 percent of the rail freight terminating in Missouri.

Significant changes and trends appear when these freight movements are compared. Between 1970 and 1974 coal shipments increased by 61.4 percent; pulp and paper products were up 31.2 percent; and transportation equipment increased by 23.6 percent. Overall there has been healthy increases in freight movement in Missouri suggesting that the railroads are playing a progressively more important role in moving the freight of Missouri.

For 1975, commodity listings were broke down by individual railroads; these can be found on the reviewed railroads general fact sheets. Table 2-15 shows a detailed relationship of route miles, train miles, ton miles, number of cars originated and terminated in Missouri and the tonnage relationships by individual railroads during 1975.

Figure 1-1

Traffic Densities

'A' and 'B' Main Lines in Missouri

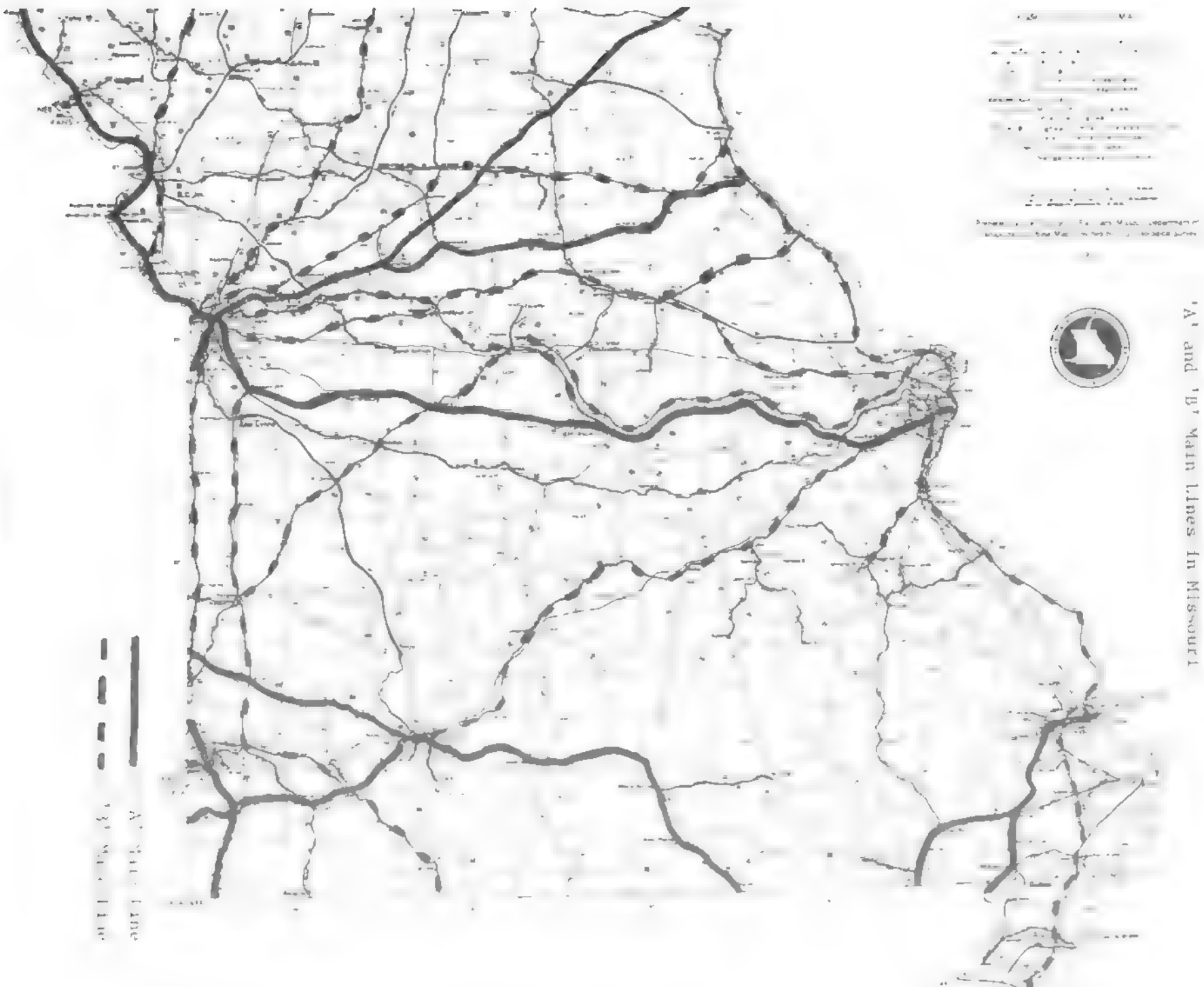


Figure 2-1

Traffic Density:

'A' and 'B' Branch Lines in Missouri

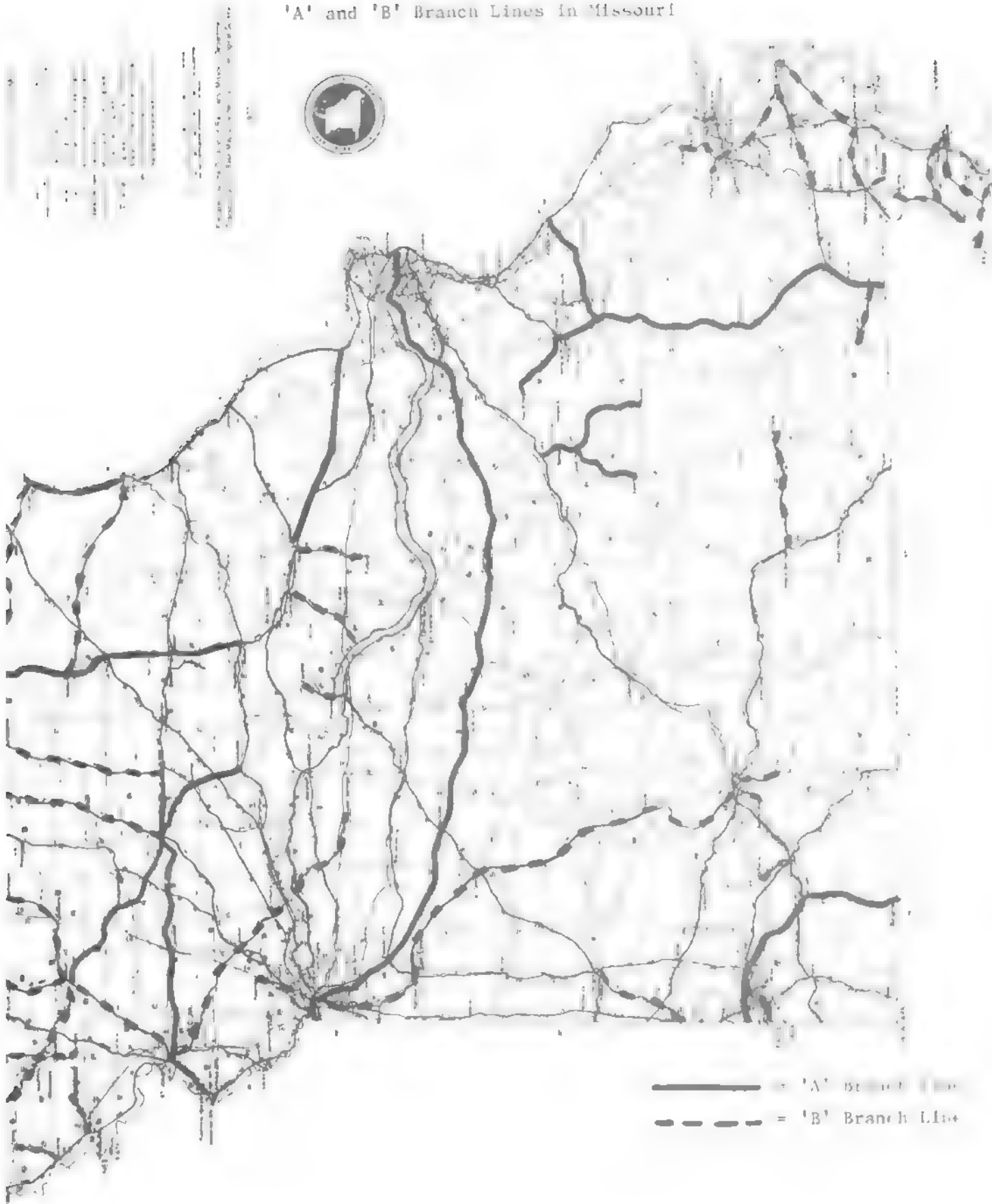


Table 2-13

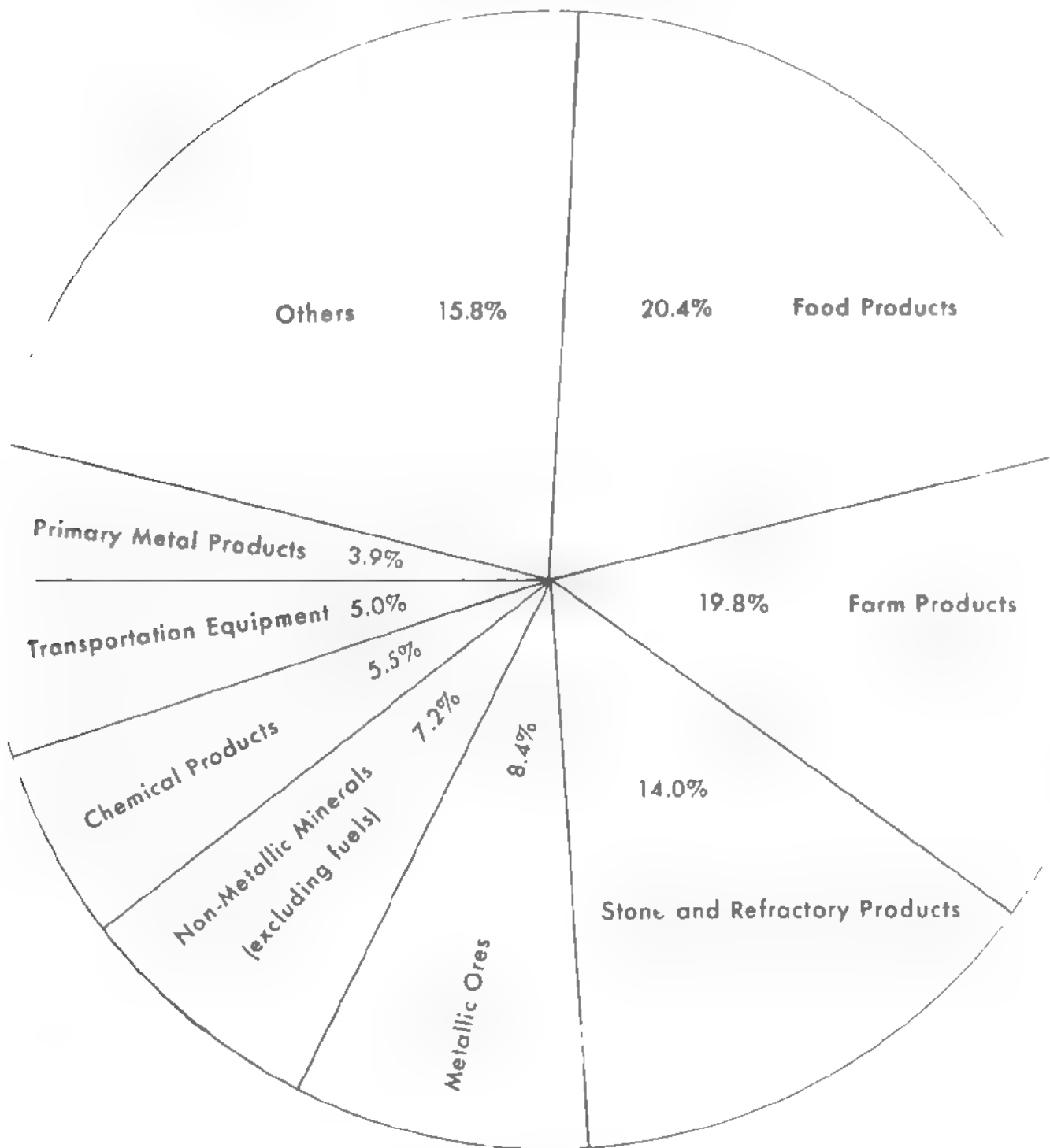
Rail Shipments Originating on Class I Railroads in Missouri,
By Commodity Groups* 1970 and 1974

Commodity Group	Rank	1970 Tons	Percent	Rank	1974 Tons	Percent	Per Cent Change	Rank According to Growth
Food and kindred products	1	4,992,417	19.5	1	5,383,567	20.4	7.8	4
Farm products	2	4,159,168	16.3	2	5,237,113	19.8	25.9	2
Stone, clay, glass and concrete products	3	3,461,917	13.7	3	3,702,737	14.0	7.0	5
Metallic ores	4	2,994,879	11.7	4	2,217,697	8.4	-25.9	8
Non-metallic minerals except fuels	5	2,520,099	9.9	5	1,906,279	7.2	-24.4	7
Chemicals and allied products	6	1,781,085	7.0	6	1,456,972	5.5	-18.2	6
Transportation equipment	7	1,041,436	4.1	7	1,317,789	5.0	26.5	1
Primary metal products	8	956,898	3.7	8	1,040,280	3.9	8.7	3
27 other commodities	-	3,590,993	14.1	-	4,160,253	15.8	15.9	-
TOTALS:		25,498,892	100.0		26,422,687	100.0	3.6	

*Does not include traffic originating on terminal railroads
Source: Missouri Public Service Commission

Figure 2-15

Rail Shipments Originating in Missouri, By Commodity Group 1974



Source: Missouri Public Service Commission

Table II-14

Rail Shipments Terminating on Class I Railroads in Missouri,
By Commodity Groups* 1970 and 1974

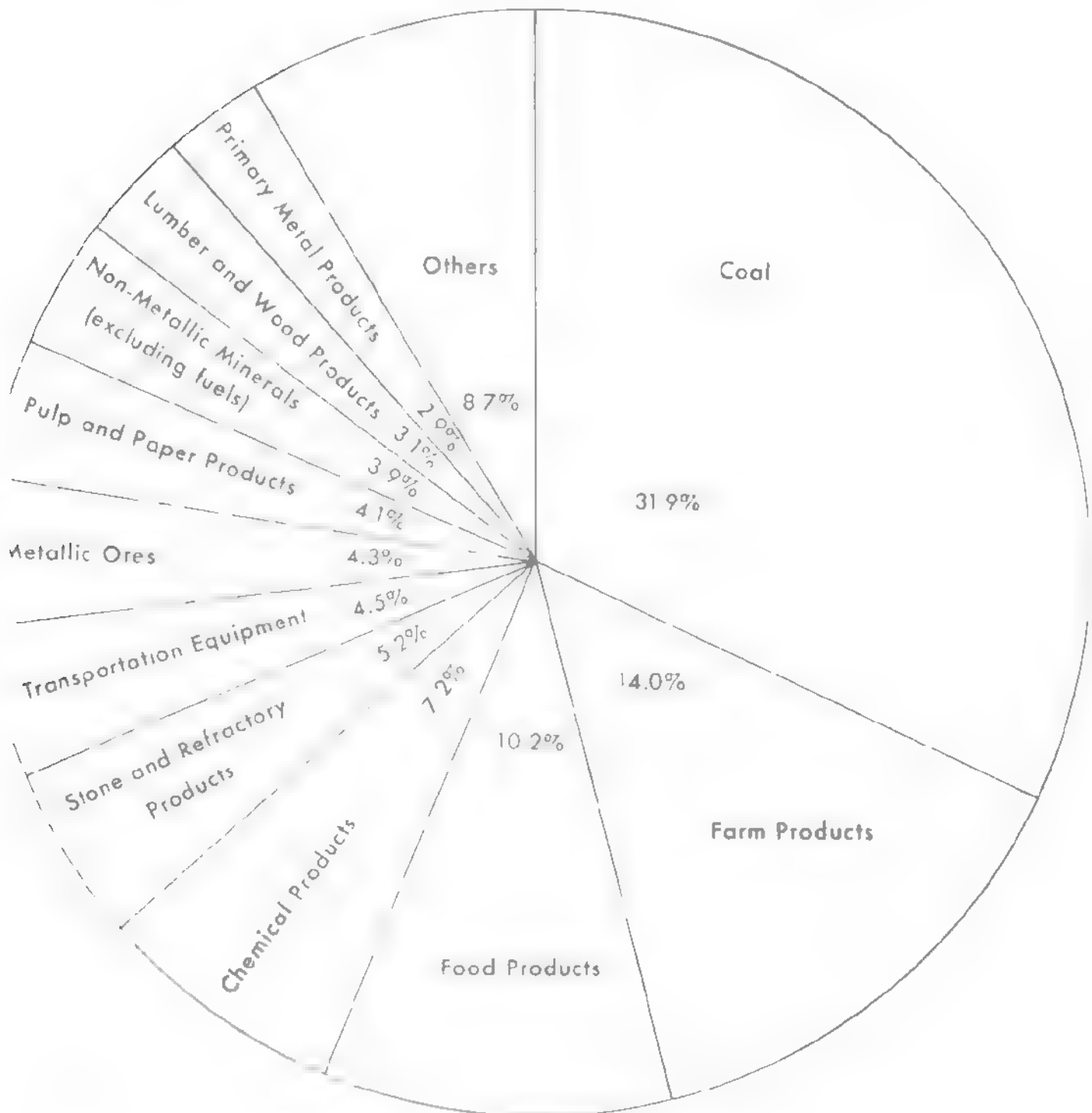
Commodity Group	Rank	1970 Tons	Percent	Rank	1974 Tons	Percent	Percent Change	Rank According to Growth
Coal	1	7,149,044	23.0	1	11,536,990	31.9	61.4	1
Farm products	2	5,145,379	16.5	2	5,058,913	14.0	-1.7	8
Food and kindred products	3	2,452,609	11.1	3	3,703,511	10.2	7.3	6
Chemical and allied products	4	2,255,317	7.2	4	2,612,728	7.2	15.8	4
Non-metallic minerals except fuels	5	1,925,729	6.2	9	1,401,692	3.9	-27.7	11
Stone, clay, glass and concrete products	6	1,895,639	6.1	5	1,873,968	5.2	-1.1	7
Metallic ores	7	1,892,050	6.1	7	1,557,666	4.3	-17.7	10
Transportation equipment	8	1,316,616	4.2	6	1,627,086	4.5	23.6	3
Pulp, paper and allied products	9	1,125,631	3.6	8	1,476,960	4.1	31.2	2
Primary metal products	10	1,087,537	3.5	11	1,039,247	2.9	-4.4	9
Lumber and wood products	11	1,035,635	3.3	10	1,125,216	3.1	8.6	5
24 other commodities	-	2,860,033	9.2	-	3,104,198	8.7	8.5	-
TOTALS:		31,141,219	100.0		36,118,175	100.0	16.0	

*Does not include traffic terminating on terminal railroads.

Source: Missouri Public Service Commission

Figure 2-16

Rail Shipments Terminating in Missouri, By Commodity Group 1974



Source: Missouri Public Service Commission

Table 2-15

Missouri Railroads Freight Movement Relationships

Railroads	Main Line	Branch Line	Total	% of Total Mo. Mileage	TRAIN MILES		TON MILES FREIGHT CARS		CARS ORIGIN- ATED in Mo.		TONNAGE ORIGIN- ATED in Mo.	
					Number	%	Number (000s)	%	Number	%	Number	%
ATSF	200.5	5.1	205.6	3.1	1,768,676	14.0	6,101,846	12.4	10,423	2.2	614,605	2.6
BN	505.0	562.9	1067.9	15.9	1,238,896	9.8	5,141,848	10.6	56,984	12.2	2,984,554	12.5
Milw. Rd.	—	135.6	135.6	2.0	219,764	1.7	1,127,918	2.3	5,711	1.2	195,665	0.8
CNW	81.5	—	81.5	1.2	253,441	2.0	1,141,221	2.3	5,129	1.1	229,401	1.0
RI	195.3	313.9	509.2	7.6	655,947	5.2	2,329,572	4.7	15,762	3.5	658,125	2.8
ICG	207.6	23.8	231.4	3.4	377,415	3.0	1,332,418	2.7	24,168	5.2	995,198	4.2
KCS	163.3	3.3	166.6	2.5	363,663	2.9	2,003,338	4.1	11,399	2.5	587,196	2.5
Katy	333.1	25.8	358.9	5.3	297,173	2.4	1,233,692	2.5	24,377	5.2	1,729,625	7.3
MoPac	999.3	291.8	1291.1	19.2	2,841,772	22.5	10,872,262	22.2	159,328	34.2	9,747,727	40.9
N&W	348.1	265.8	613.9	9.1	1,177,241	9.4	5,066,979	10.3	49,536	10.6	2,002,499	8.4
Frisco	773.0	483.4	1256.4	18.7	2,908,591	23.1	10,276,603	20.9	86,608	18.6	3,385,399	14.2
SSW	76.0	117.0	193.0	2.9	503,937	4.0	2,449,607	5.0	15,997	3.5	659,707	2.8
TOTALS:	3882.7	2228.4	6111.1	100.0	12,606,516	100.0	49,077,304	100.0	465,422	100.0	23,789,701	100.0

Table 2-15 (continued)

Railroad	CARS TERMINATED		TONNAGE TERMINATED		TOTAL CARS		TOTAL TONNAGE		Route Mileage	RANK		
	In Mo. Number	%	In Mo. Number	%	Mo. Oriented Number	%	Mo. Oriented Number	%		Train Miles	Mo. Tonnage	Total Tonnage
ATSF	24,103	4.2	1,665,458	4.8	34,526	3.3	2,280,063	3.9	8	3	7	3
BN	108,785	18.8	7,403,889	21.4	165,769	15.9	10,388,443	17.8	3	4	2	4
Milw. Rd.	9,182	1.6	341,889	1.0	14,893	1.4	537,554	0.9	11	12	12	12
CNW	13,416	2.3	665,977	1.9	18,545	1.8	895,378	1.5	12	11	11	11
RI	10,632	1.8	556,819	1.6	26,394	2.5	1,214,944	2.1	5	6	8	7
ICG	33,113	5.7	1,336,070	3.9	57,281	5.5	2,331,268	4.0	7	8	6	9
KCS	12,436	2.1	569,218	1.6	23,835	2.3	1,156,414	2.0	10	9	9	8
Katy	14,148	2.4	1,120,701	3.2	38,525	3.7	2,850,326	4.9	6	10	5	10
MoPac	177,649	30.8	12,864,195	37.3	336,983	32.3	22,611,922	38.7	1	2	1	1
N&W	71,404	12.4	2,751,773	8.0	120,940	11.6	4,754,272	8.3	4	5	4	5
Frisco	96,299	16.7	4,923,420	14.3	182,907	17.5	8,308,819	14.2	2	1	3	2
SSW	6,971	1.2	352,260	1.0	22,968	2.2	1,011,967	1.7	9	7	10	6
TOTALS:	578,138	100.0	34,551,669	100.0	1,043,566	100.0	58,341,370	100.0				

CHAPTER III

CLASSES OF RAIL SERVICE

The reader should, by this time, have a basic understanding of general rail services in the State of Missouri. As a continuation of the preceding chapter, a second detailed examination of today's Missouri network follows. This chapter is concerned with specific classifications of rail service within the state which are illustrated on individual maps and supplemented by written descriptions. These classifications consist of: (i) lines which cannot accommodate "high and wide loads"; (ii) rail freight services to military installations; (iii) rail lines in Missouri that are eligible for assistance under section 5(k) of the USDOT Act; (iv) rail freight services within Missouri that are designated as "potentially subject to abandonment" (categories I and II) on system diagram maps; (v) rail freight services for which abandonment application are pending before the ICC (category III); (vi) projects for which Missouri wishes to receive federal assistance, and; (vii) rail projects which Missouri intends to fund from non-federal sources.

High and Wide Loads 266.15 (c)(3)(f)

Clearance Limits--In order to move the majority of larger shipments with a minimum of problems, railroads measure their routes for clearance limits (listed on individual railroad fact sheets), both for what could be considered normal operations and for dimensional loads, those requiring special treatment, lower speeds, and a watch at some key enroute points. Regular inspections are made to update clearance data, for example, to spot minor track shifts, if any, and other factors which might impair effective clearances; also to help determine the feasibility of specific potential improvements such as removal of various obstructions.

Inspection results lead to establishment of certain minimum clearance standards, good for all or portions of each route depending in part on the situation and on individual corporate policy. Ordinarily, where key segments of a particular line may afford better clearances than the minimum

clearances prevailing over the total line, the pertinent segments, which provide improved clearances would be accorded separate listings. Viewed in the light of the principal rail freight traffic components traveling over Missouri trackage, particularly interstate movements, the principle clearance concerns lie with the shipping capabilities available on the basis of length-of-line clearances rather than with those of more localized line segments offering some above average clearance limits.

Standards have been set by the railroads in order to come up with fairly uniform specifications for coding acceptable car dimensions under varying clearance limitations. These standards carry various "Plate Numbers." Plate C generally corresponds to a 50 foot box car and calls for a maximum width of 10'8" and a maximum height of 15'6". Other plate numbers refer to larger cars. The 10'8" width applies to cars whose truck centers do not exceed 46'3" and the swingout at either of the ends or center does not exceed 7½" on a 13° curve. Longer truck center cars can qualify for Plate C but only if width is reduced sufficiently to keep swingout at or below 7½" on a 13° curve.

Within Missouri, MoPac restricts cars that are within the limits of Plate C, but exceeds the limits of Plate B, on the line segment from Carthage, Mo. to Diaz, Ark. and within Cape Girardeau, Mo. There are no other restrictions for Plate C cars on Missouri trackage.

Base car designs for higher cars also call for the same truck center and swingout limitations applicable to Plate C base cars. Plate E cars have a maximum width of 10'8" and height of 15'9"; Plate F cars, 10'8" width and 17' height. Plate E and F cars are generally considered to be oversized although not necessarily dimensional and are restricted on some lines.

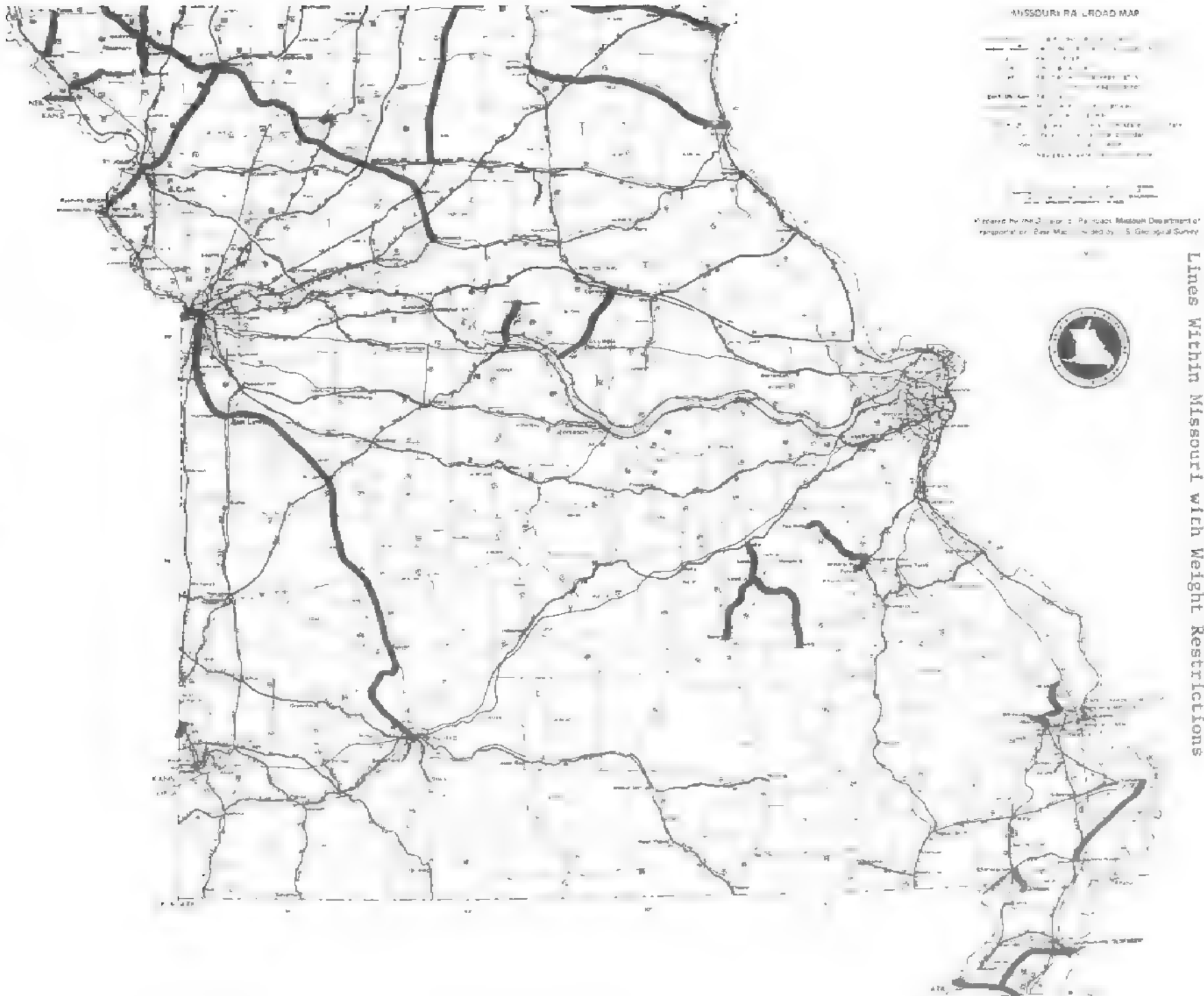
Missouri Clearances--Missouri area railroads appear to set individual standards for determining when a load is dimensional (Plates C, E, and F could be categorized as dimension cars and operation of such cars would require a release by the subject railroad's Clearance Bureau before being handled, provided that the clearances exist). For example the N&W

figures are based on a car length of 54' with truck centers of 43'3"; the BN's are for a 55' car with truck centers not exceeding 42'; and the Frisco uses a 57' car as a base.

Weights--The maximum allowed weights are geared to the type of rail and rail conditions; the load bearing capacity of trestles, culverts, and bridges; and any other special right of way considerations. Numerous governing conditions also prevail which include center of gravity of the load, car length, truck spacing, truck and wheel size, distribution of load weights over one or more cars, and distribution of load weight within an actual car. For the purpose of this planning effort a 263,000 pound weight limit is considered a minimum figure for frequent handling of 100 ton capacity hopper cars (or their equivalent); most railroads consider such a limit as a minimum weight to strive for. Figure 3-1 shows those lines within Missouri that fall below this 263,000 pound weight limit.

Figure 3-1

Lines Within Missouri with Weight Restrictions



Rail Freight Services to Military Installations 266.15 (c)(3)(ii)

Certain routes were listed in the 1976-77 FRA national rail trackage classifications as defense essential. Adequate transportation services to military installations within Missouri is an important aspect of our national defense system.

There are four military installations within the state and two others (one each in Arkansas and Kansas) that are substantially served by Missouri rail lines. All are on main lines except for the Blytheville, Ark. AFB; closure of this facility would probably result in a shutdown of the branch line serving it. Table 3-1 and Figure 3-2 enumerate those installations which are served by rail freight services.

Lines Eligible for Assistance Under Section 5(k) of the USDOT Act

266.15 (c)(3)(iii)

Under the provisions of the Railroad Revitalization and Regulatory Reform Act of 1976 (4 R Act), "lines eligible for assistance" are both those lines abandoned since February 5, 1976, and those lines found by the ICC that public convenience and necessity would permit the discontinuance of service on or abandonment of such a line. Since February 5, 1976, there have been 6 separate abandonments granted in Missouri, involving 4 different railroad companies. These 6 lines account for 105.6 miles of rail service to be terminated within the state.

Of the 105.6 total miles of track that were granted abandonment, 73.4 miles have been considered as eligible mileage since August 1, 1976. The remaining 32.2 miles will become eligible for the April 2, 1978 reallocation of funds. Table 3-2 lists all 6 granted abandonments; these lines are also illustrated on Figure 3-3. An indepth analysis of these lines can be found in Chapter V.

Table 3-1

Rail Service to Military Installations

Railroad	Military Service	Activity	Location
SSW	Air Force	Blytheville Air Force Base	Blytheville, Ark.
MoPac	Air Force	Whiteman Air Force Base	Knobnoster, Mo.
Frisco	Army	Fort Leonard Wood	Waynesville, Mo. (Newburg)
Katy	Army	Kansas Army Ammunition Plant	Parsons, Ks.
MoPac	Army	Lake City Army Ammunition Plant	Independence, Mo.
MoPac	Army	USPFO for Missouri	Jefferson City, Mo.

Source: Department of Defense Installations and Activities Requiring Rail Service,
(Washington, D.C., Military Traffic Management Command, March 31, 1977).

Rail Freight Services to Military Installations



Table 3-2

Granted Abandonments Since February 5, 1976

Federal Docket	Railroad	Line Segment	Mileage in Mo.	Current Status
AB 6-16	BN	Maryville, Mo. - Barnard, Mo.	13.7	Conditional approval of abandonment 12-23-77
AB 6-26	BN	Maitland, Mo. - Skidmore, Mo.	5.9	Abandonment granted 1-21-77
AB 9-5	Frisco	Mulberry, Ks. - Pittsburg, Ks.	7.0	Abandonment granted 8-10-76
AB 52-4	Santa Fe	Richmond, Mo. - Bee Creek (BC) Junction, Mo.	59.65	Conditional approval 7-14-77
AB 102-4	Katy	McBaine, Mo. - Columbia, Mo.	8.8	Abandonment granted 10-7-77
AB 102-7	Katy	Franklin, Mo. - Fayette, Mo.	10.5	Abandonment granted 1-30-78

6 Dockets

105.6 miles

Lines Eligible for Assistance



Lines Potentially Subject to Abandonment 266.15 (c)(3)(iv)

Regulations published by the ICC in Ex Parte 274 (Sub. No. 2), Abandonment of Railroad Lines and Discontinuance of Service, and enacted in Title 49 of the Code of Federal Regulations, Part 1121.22(b) required that the railroads publish a color-coded system diagram map showing the following categories of lines:

- (i) Category I: All lines which the carrier may seek to abandon within three years. (Red)
- (ii) Category II: All lines under study by the carrier which may be subject to future abandonment attempts. (Green)
- (iii) Category III: All lines for which an abandonment application is pending before the ICC. (Yellow)
- (iv) Category IV: All lines that are being operated under the service continuation provisions in the 3R Act. (Brown)
- (v) Category V: All other lines the carrier owns or operates. (Black)

This section will be concerned with those lines in Missouri which fall into Category I and Category II - those lines designated as "potential abandonments." To date, of all the Class I railroads that have submitted system diagram listings of potential abandonments in Missouri, only 7 companies show potential abandonments within the state. According to these diagrams, there are a total of 632.6 route miles of rail line in Missouri which may be filed for abandonment at some time in the next three years. A list of these lines can be seen in Table 3-3 and are illustrated on Figure 3-4.

Although MoDOT intends to both monitor and analyze these lines listed as potential abandonments, several factors, including time restraints, lack of adequate personnel, and the unavailability of necessary data has resulted in the inability to do such a detailed analysis of these lines at this time. As these impediments are overcome, the Department will be prepared to perform the detailed line-by-line analysis as the necessary data becomes available.

Table 3-3

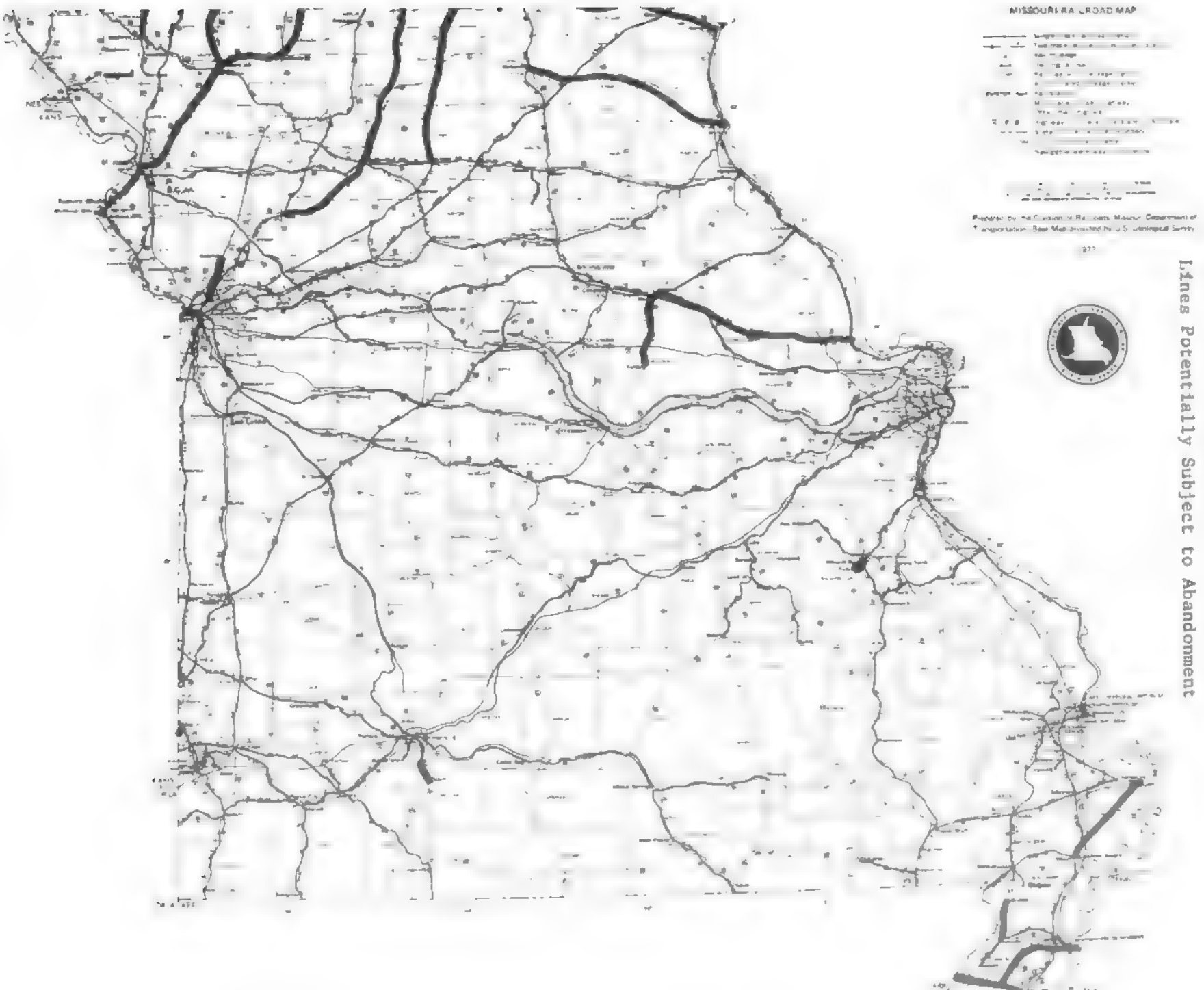
Category I and II Lines in Missouri

Railroad	Line Segment	Mileage in Mo.
<u>Category I</u>		
Santa Fe	*no Category I lines in Missouri*	
BN	Albany Junction, Mo. - Grant City, Mo.	20.1
BN	Creston, Ia. - Maryville, Mo.	16.0
BN	St. Joseph, Mo. - Humeston, Ia.	90.4
BN	Birmingham, Mo. - Kearney, Mo.	17.1
BN	Laclede, Mo. - Unionville, Mo.	53.4
BN	Old Monroe, Mo. - Francis, Mo.	64.1
BN	Alexandria, Mo. - Centerville, Ia.	74.0
BN	West Quincy, Mo. - Kirksville, Mo.	67.4
CNW	*no listed Category I lines in Missouri*	
Milwaukee Road	Polo, Mo. - Iowa border	92.5
Rock Island	*no listed Category I lines in Missouri*	
ICG	*no listed Category I lines in Missouri*	
KCS	Independence, Mo. - Sugar Creek, Mo.	2.0
KCS	KOG Junction, Mo. - Baxter Springs, Ks.	3.3

Table 3-3 (continued)

Railroad	Line Segment	Mileage in Mo.
Katy	*no listed Category I lines in Missouri*	
MoPac	Cape Girardeau industrial switching tracks	3.4
MoPac	Potosi, Mo. - Mineral Point, Mo.	3.7
N&W	*no listed Category I lines in Missouri*	
Frisco	Kissick, Mo. - Ozark, Mo.	7.5
Frisco	Kennett, Mo. - Holcomb, Mo.	12.0
SSW	Lilbourne, Mo. - Wyatt, Mo.	31.7
SSW	Paragould, Ark. - Blytheville, Ark.	21.4
SSW	Hornersville, Mo. - Caruthersville, Mo.	28.8
	<u>Category II</u>	
ICG	Mexico, Mo. - Fulton, Mo.	23.8
TOTAL:		632.6

Figure 3-4
Lines Potentially Subject to Abandonment



Rail Lines Pending Abandonment Before the ICC 266.15 (c)(3)(v)

This section is oriented toward Category III rail lines listed on individual rail companies system diagram maps; those lines within the state for which abandonment or discontinuance applications are currently pending before the ICC.

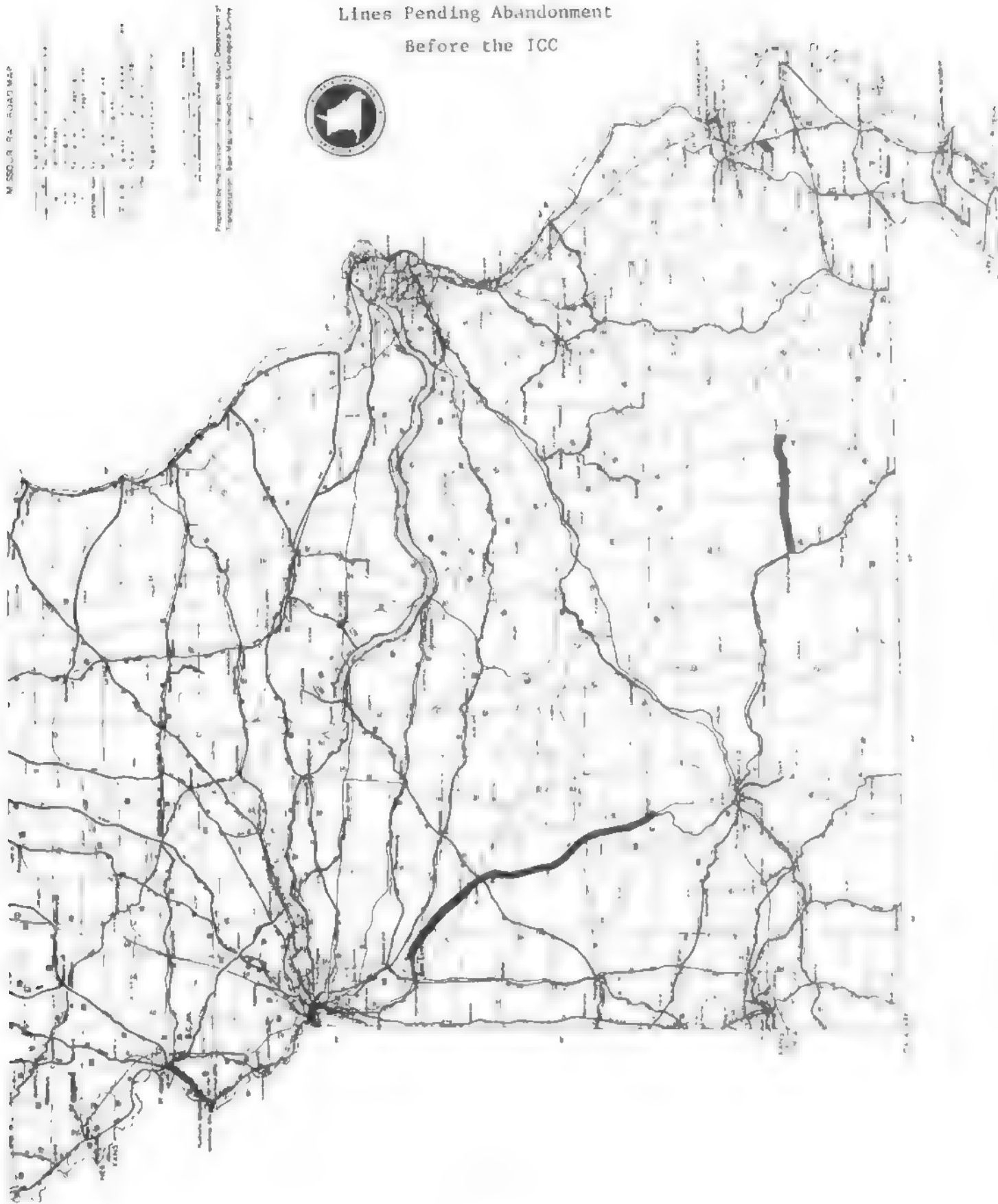
There are currently 4 separate abandonment applications pending in Missouri totalling 142.5 miles of track. These lines are listed in Table 3-4 and illustrated on Figure 3-5. Although pending abandonments are not eligible for continuation subsidies at this time, they were put through an analysis by MoDOT. The results of this detailed line-by-line analysis can be found in Chapter V.

Table 3-4

Category III Lines in Missouri

III-15	Federal Docket	Railroad	Line Segment	Mileage in Mo.
	AB 10-13F	N&W	located wholly within Columbia, Mo.	0.2
	AB 9-10	Frisco	Willow Springs, Mo. - Winona, Mo.	37.9
	AB 9-11F	Frisco	Brooks Junction, Mo. - Vanduser, Mo.	3.4
	AB 9-9	Frisco	East Lynne, Mo. - Bolivar, Mo.	101.0
	TOTAL:			<u>142.5 miles</u>

Figure 3-5
Lines Pending Abandonment
Before the ICC



CHAPTER IV

PASSENGER SERVICE

266.15 (c)(2)(iii)

Passenger transportation by rail has undergone a transformation in this country during the twentieth century. At one time the most prevalent form of personal transportation, the railroads have given ground to other modes until today the private automobile is the dominant personnel transporter, and air transport leads among public carriers of passengers by a wide margin. Nationwide, intercity buses and rail transport together account for no more than 3 percent of the total.

The State of Missouri has a total of 660 miles of track (199 miles owned by Santa Fe and the remaining 461 miles owned by MoPac) over which the National Railroad Passenger Corporation (Amtrak) operates; this mileage operated over by Amtrak is shown on Figure 4-1. Amtrak runs 3 routes through the state, which include:

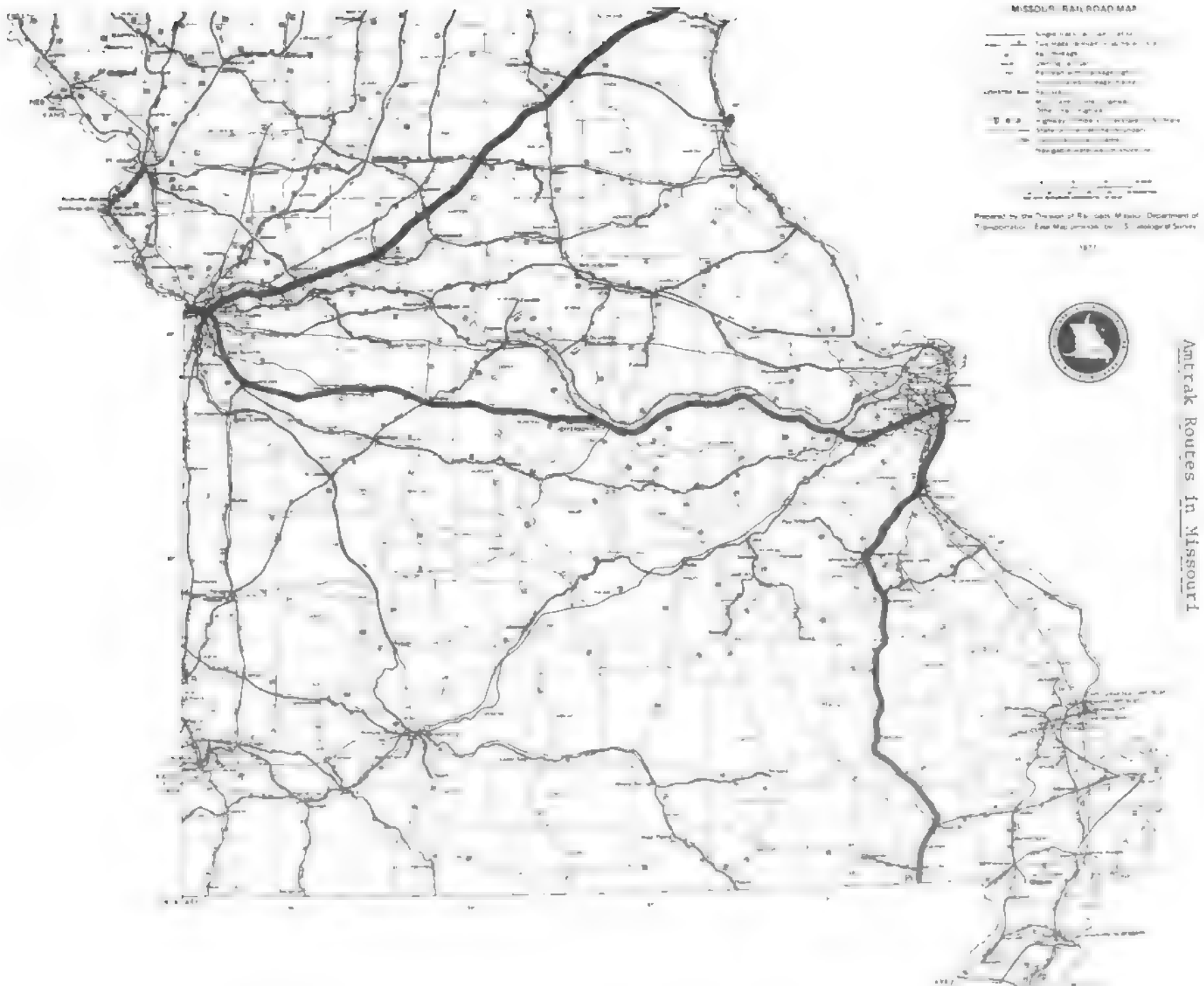
- (i) the Southwest Limited from Chicago to Los Angeles via Kansas City;
- (ii) the National Limited from New York/Washington, D.C. through St. Louis and Kansas City, and;
- (iii) the Inter-American between Chicago and Laredo, Tex. via St. Louis.

Besides these major routes, Amtrak also operates several other routes that concern the State of Missouri including:

- (i) the Illinois Zephyr from Chicago to West Quincy, Mo.;
- (ii) the State House from Chicago to St. Louis;
- (iii) the Ann Rutledge from Chicago to St. Louis, and;
- (iv) the Lone Star from Chicago to Dallas/Houston via Kansas City.

The Amtrak Situation

Due to a financial squeeze at Amtrak, train service has been reduced by Amtrak on a national level. In summary, Amtrak stated a need for \$545 million to maintain a national system as operated during the summer months. Its actual appropriation for fiscal year 1978 (October 1, 1977-



September 30, 1978) was 488.5 million. On December 19, 1977, Congress completed action on a supplemental appropriation of \$18 million to keep services operating until it could review the USDOT route analysis study that has been set back from its original completion date of March 1, 1978. Overall, Amtrak experienced a loss of \$521.6 million for the 12 month period ending September 30, 1977 compared with a \$441.2 million loss for a similar period ending September 30, 1976. Currently Amtrak forecasts call for an average per mile fare reaching 7.2¢ in 1981, a ridership of 23,000,000 passengers and a deficit of \$648,300,000 for that year. Forecast losses substantially exceed \$28 per passenger.

Affected routes in Missouri include both the National Limited and the Inter-American. The National Limited carried a total of 128,080 passengers during the first 8 months of 1977, a decline of 3 percent from the same period in 1976. The Inter-American carried a total of 35,330 passengers in the first 8 months of 1977, an increase of 14 percent but still realized a loss of \$3,000,000 during that period. It is not known at this time whether the USDOT route analysis study will recommend the elimination or modification of these Missouri routes.

Forecasting Ridership Potential.---There do not appear to be any very specific methods for determining rail ridership potential either between a pair of cities or along a major corridor route. Too much is dependent upon total distance, competitive modes, lack or presence of major highway congestion, accessibility from principal home or office zones to transportation terminals, and, of course, cost and frequency of schedules of the common carriers.

The federal government undertook an extremely detailed study of the number of person trips per household during 1962 by region and family income. From this work came the 1963 Census of Transportation² taken by the Bureau of the Census which developed trip generation factors by households. The trip generation factor was 12.27 trips per year for households located east of Buffalo and Pittsburgh; 15.67 trips per year for households located west of these cities.

A National Travel Survey,³ conducted in 1967 by the Bureau of the Census, went a step further and determined that, at that time, 1.9 percent of all trips were rail trips. Further work by the National Travel Survey to determine the

number of long distance rail trips developed a trip generation factor of 0.16 person trips per household.

Shortly prior to the 1965 National Travel Survey undertakings, the Survey Research Center of the University of Michigan⁴ interviewed travelers on well patronized trains, at airports, and on buses to determine the significant factors influencing their decisions as to modal choice of travel. The relative degrees of importance of the following factors in making travel mode decisions, based on a scale of 100, were determined to be:

Speed	90
Convenience	70 (location of terminals, parking, schedule times, frequencies)
Comfort	70
Price	40 (unless prices exceed demand level)
Safety	10 (automatically assumed)

Information Sources for Developing Forecasts. --The methodology developed in 1962-67 by the National Travel Survey of the Bureau of the Census⁵ made particular use of numbers of households as a primary basis for calculating ridership potential. If the ongoing forecast work is to be kept up to date, some source other than the every ten years census will have to be employed. Sales Management Magazine⁶ publishes an annual statistical number which goes into considerable detail in estimating populations, households, and incomes by groupings related to principal cities, their suburbs, and either outlying cities or entire counties. Total figures also are supplied for principal Standard Metropolitan Statistical Areas (SMSA's). For the purposes of this review, Sales Management's 1976 estimates are used.

There is no absolute method for determining the vectors of people movement to and from major city areas, for example, the directions which their trips take. The procedure used is to ascertain the number of intercity bus schedules radiating out in various directions from a key city. They are totaled and then the proportions of operations in each principal direction are calculated; the resulting percentage figures supply the vectors. These calculations obviously will miss some key air movement patterns. They also will not reflect, for example, the high proportion of St. Louis-Chicago, St. Louis-New York, or St. Louis-California air travelers. It should be noted that sizable proportions of the

St. Louis-Chicago air passengers are on interline runs not originating in St. Louis or terminating in Chicago, or vice versa, and that the long distance New York-California trips mean little to state rail plans. The calculations do reflect, to a fair degree, an indicator of what the ground travel situation is within reasonable distance of any travel generation point which would be used for planning Missouri oriented rail services.

Background Forecast Procedures.--The procedures used for developing background forecast data are as follows:

Short Haul Markets (under 200 miles):

- (i) Multiply the number of households⁷ by the area trip generation factor which is 15.67 person trips per household.⁸
- (ii) Multiply the number obtained in Step 1 by .019 since 1.9 percent of all trips are rail trips.⁹
- (iii) Divide by an arbitrary figure (300) to get average daily riders. The sharp fluctuations of short haul ridership..very high on weekends and quite low on some weekdays.. can be leveled to a viable average if the 300 divisor is employed.
- (iv) Vector the ridership proportions, by general direction, from the base rider origin metropolitan area. Employ bus, air, or other frequencies to provide clues as to approximate distribution by direction. Employ only that proportion estimated to be traveling in the axis of the corridor under consideration.

The foregoing procedures yield a ridership estimate of the origination of a particular metropolitan area travel for an outward radius of about 200 miles. The same process should be employed for outlying metropolitan areas which must feed to the base city.

Long Haul Markets (over 200 miles):

- (i) Determine the number of households in the base city and multiply them by a trip generation factor of 0.16 person trips by rail per household.¹⁰ This will give total long distance ridership from the base city.
- (ii) Vector by estimate as done in Step 4, Short Haul Markets.
- (iii) Divide the total by 365 to get daily ridership potential. During peak

rail travel years, long distance origination totals were fairly evenly distributed over the days of the week.

- (iv) Suburban add ons to the base city market should be accorded a lesser proportion trip generation factor than 0.16; at least a 50 percent discount is suggested because of airport, highway and other convenience factors which tend to diminish the attractiveness of in-city rail terminals. The discounts used vary between 50 and 67 percent depending upon the location of the suburbs.

Suggested Vectoring from St. Louis:

West toward Kansas City	14%
East toward Terre Haute	11%
Mt. Vernon, Centralia direction in Illinois	7%
Southeast Illinois toward Carbondale	4%
South toward Cape Girardeau, Arkansas and Memphis	15%
North toward Quincy	2%
North/Northeast toward Springfield, Illinois	19%
Southwest toward Springfield, Missouri and Oklahoma	28%
	100%

Suggested Vectoring from Kansas City:

West toward Topeka, Salina, Denver	30%
Southwest toward Wichita	13%
Southwest toward Independence and Oklahoma	7%
South toward Joplin	4%
Southeast toward Springfield and Memphis	4%
North toward St. Joseph and Omaha	16%
East toward mid-Missouri and St. Louis	21%
Northeast toward Des Moines	5%
	100%

The suggested vectoring from Tulsa, Okla. toward Joplin, Springfield, and St. Louis, Mo. is 21 percent. Similarly for Oklahoma City, the suggested vector is 15 percent. The suggested two directional vector at Springfield, Mo. i

60 percent along the Frisco rail route between St. Louis, Monett, and Tulsa. The above vectors represent directional ridership proportions and not final travel destinations.

Tables 4-1 and 4-2, appearing on subsequent pages, illustrate the ridership forecasts for the St. Louis-Kansas City and St. Louis-Springfield-Oklahoma Corridors. They are based on the procedures outlined in this section. The ridership figures are predicated on three daily round trips over each route.

Table 4-1

Forecast of Rail Ridership Potential St. Louis -
Kansas City Corridor (one direction only)

Area	1975	1975	Personal	Potential Long			Estimated	Households x 15.67	x .019 ÷ 100	Potential	Estimated	Estimated Total Corridor Long and Short Distance
	Est. Pop.	Est. Households	Trips Households x .16	Distance	Riders	Riders	Long Distance Riders			Short Distance Riders	Short Distance Riders	
Sr. Louis City	520,000	192,400	30,784	84			12	3,014,908	57,283	191	27	39
Missouri Suburbs	1,255,900	391,800	62,688	172	÷(2) 86		12	6,139,506	116,650	389	÷(2) 27	39
Illinois Suburbs	583,300	188,600	30,176	83	÷(3) 28		4	2,955,362	56,151	187	÷(3) 9	13
Gasconade County	13,600	5,200	832	2			1	81,484	1,548	5	3	4
Linn	15,600	6,300	1,008	3			2	98,721	1,876	6	3	5
8-11 Cole (Jefferson City)	50,000	16,400	2,624	7			4	256,988	4,882	16	8	12
Monireau	11,400	4,200	672	2			1	65,814	1,251	4	2	3
Petris (Sedalia)	36,100	13,500	2,160	6			3	211,545	4,019	13	7	10
Johnson	35,900	11,200	1,792	5			3	175,504	3,335	11	6	9
Kansas City	468,200	185,100	29,616	81			17	2,900,517	55,110	184	39	56
Missouri Suburbs	414,100	144,400	23,104	63			13	2,262,748	42,992	143	30	43
Kansas Suburbs	420,600	140,400	22,464	62	÷(2) 31		7	2,200,068	41,801	139	÷(2) 15	22
Totals:							79				176	255

Source: Compiled by consultant.

Table 4-2

Forecast of Rail Ridership Potential St. Louis -
Oklahoma City Corridor (one direction only)

Area	1975 Est. Pop.	1975 Est. Hseholds	Personal Trips Hseholds x .16	Potential Long Distance Riders			Estimated Long Distance Riders	Hseholds x 15.67	x .019 ÷300	Potential Short Distance Riders	Estimated Short Distance Riders	Estimated Total Corridor Long and Short Distance
				÷365	÷(0)	(2)(3)						
St. Louis	520,000	192,400	30,784	84			24	3,014,908	57,283	191	54	78
Missouri Suburbs	1,255,900	391,800	62,688	172	÷(2)	86	24	6,139,506	116,650	389	÷(2) 54	78
Illinois Suburbs	583,300	188,600	30,176	83	÷(3)	28	8	2,955,362	56,151	187	÷(3) 18	26
Crawford (Cuba)	17,400	6,100	976	3			2	95,587	1,816	6	3	5
Phelps (Rolla)	33,000	10,600	1,696	5			3	166,102	3,156	11	6	9
Pulaski	43,200	8,300	1,328	4			2	130,061	2,471	8	4	6
Laclede	22,700	8,300	1,328	4			2	130,061	2,471	8	4	6
Webster	18,900	6,700	1,072	3			2	104,989	1,995	7	4	6
Christian and Greene (Springfield)	191,000	68,200	10,912	30			18	1,068,694	20,305	68	41	59
Lawrence	29,500	11,000	1,760	5			3	172,370	3,275	11	6	9
Barry (Monett)	21,900	8,300	1,328	4			2	130,061	2,471	8	4	6
Newton	38,900	13,900	2,224	6			3	217,813	4,138	14	7	10
Joplin	40,800	16,100	2,576	7			4	252,287	4,794	16	8	12
Ottawa, Okla.	30,100	11,400	1,824	5			3	178,638	3,394	11	6	9

Table 4-2 (continued)

Area	1975 Est. Pop.	1975 Est. Hseholds	Personal Trips Hseholds x .16	Potential Long Distance Riders $\div 365 \div (0)(2)(3)$	Estimated Long Distance Riders	Hseholds x 15.67	x .019 $\div 300$	Potential Short Distance Riders	Estimated Short Distance Riders	Estimated Total Corridor Long and Short Distance
Craig (Vinita)	15,000	5,300	848	2	1	83,051	1,578	5	3	4
Tulsa and Suburbs	580,800	213,400	34,144	94	20	3,343,978	63,536	212	45	65
Lincoln	21,100	8,200	1,312	4	2	128,494	2,441	8	4	6
Oklahoma City (All)	789,400	286,700	45,872	125	19	4,492,589	85,359	285	43	62
Totals:					<u>142</u>				<u>314</u>	<u>456</u>

Source: Compiled by consultant.

Rail Passenger Service Outlook

Each passenger carrying mode requires a certain optimum level of ridership in order to be self-supporting or, at least, to hold down the magnitude of prospective deficits. So far, under Amtrak, desirable rail ridership volumes have been developed in only a very limited number of instances. Generally throughout the Midwest, the use patterns have been well below a desirable mean and both the per mile and per passenger losses incurred are becoming dangerously high. Compared with the performance standards and service amenities provided by the private rail carriers in their heyday, Amtrak has been falling deplorably short.

Within Missouri, barring a severe restriction on the use of energy for private automobiles and planes, there appears to be very little current prospect for any type of intercity rail passenger train operation which could approach a minimum reasonable rail use target of 150-200 passengers per train. Taking a cue both from the air and bus operations, practically all equipment serving Missouri cities, other than that of commuter operators, is in a run through status to/from cities located well outside Missouri borders. Similar networking would be required to develop any sort of viable rail use, networking to include such other perimeter cities as Chicago, Indianapolis, Louisville, Memphis, Little Rock, Tulsa, Oklahoma City, Denver, Omaha, Des Moines, and their intermediates. These cities would in turn require network services of their own if they were to build their rail ridership quotients to satisfactory levels.

The State of Missouri strongly supports the preservation of passenger rights-of-way and equipment in the event of a serious energy shortage or some other national crisis. But the state must seriously question the need to spend over a million dollars a day of public monies to run empty trains.

Current Principal Intercity Passenger Services--On the passenger side there are currently between St. Louis and Kansas City 43 daily air flights, 24 buses, and 2 trains. Practically all key cities are within a 45 minute flying time or a maximum of a 5 hour bus trip. The State of Missouri has, overall, an outstanding transportational network through the state. The state is so situated on primary transcontinental traffic lanes that both St. Louis and

Kansas City are major highway centers; within the state, there are over 117,000 miles of roads, highways, and streets providing means of mobility.

Tables 4-3 and 4-4, appearing on subsequent pages, list the principal mid-1978 intercity air and bus schedules within Missouri. Also shown are those services feeding to and from certain key ridership generation points, located outside Missouri, which exert substantial influence on building ridership levels along Missouri's prime corridors. Figures 4-2, 4-3, and 4-4 illustrate the principal air routes, bus routes, and interstate highway system within Missouri.

Table 4-3

Bus Schedules in Missouri

City Pairs and Operator	Round Trips (RT)	Fastest Time	Route Employed Remarks
<u>St. Louis-Memphis</u>			
Greyhound	6	6 hrs. 20 min.	via Cape Girardeau
Railways	4	9 hrs. 25 min.	via Poplar Bluff
<u>Kansas City-St. Joseph-Omaha</u>			
Greyhound	7	1 hr. 9 min.	to St. Joseph
	4	3 hrs. 54 min.	to Omaha
<u>St. Louis-Kansas City</u>			
Greyhound	8	4 hrs. 45 min.	two non-stop runs
			via I-70
Railways	4	6 hrs. 25 min.	via Jefferson City
<u>St. Louis-Springfield- Joplin-Tulsa-Oklahoma City</u>			
Greyhound	11	4 hrs. 35 min.	to Springfield
		6 hrs. 35 min.	to Joplin
		11 hrs. 50 min.	to Oklahoma City
Railways	4	4 hrs. 35 min.	to Springfield
		6 hrs. 40 min.	to Joplin
		8 hrs. 55 min.	to Tulsa
		11 hrs. 25 min.	to Oklahoma City
<u>Kansas City-Des Moines</u>			
Jefferson	4	4 hrs.	via Bethany
<u>Kansas City-Joplin- Cosho-Fayetteville</u>			
Jefferson	4	3 hrs. 15 min.	to Joplin
		5 hrs. 5 min.	to Fayetteville
Railways	4	3 hrs. 30 min.	to Joplin via Fort Scott
<u>Kansas City-Springfield</u>			
Jefferson	4	5 hrs. 5 min.	via Nevada
<u>Kansas City-Springfield- Memphis</u>			
Railways	4	11 hrs. 20 min.	via Springfield

Source: March 1978, Official Bus Guide

FIGURE 4-2

TRAFFIC ROUTES IN MISSOURI

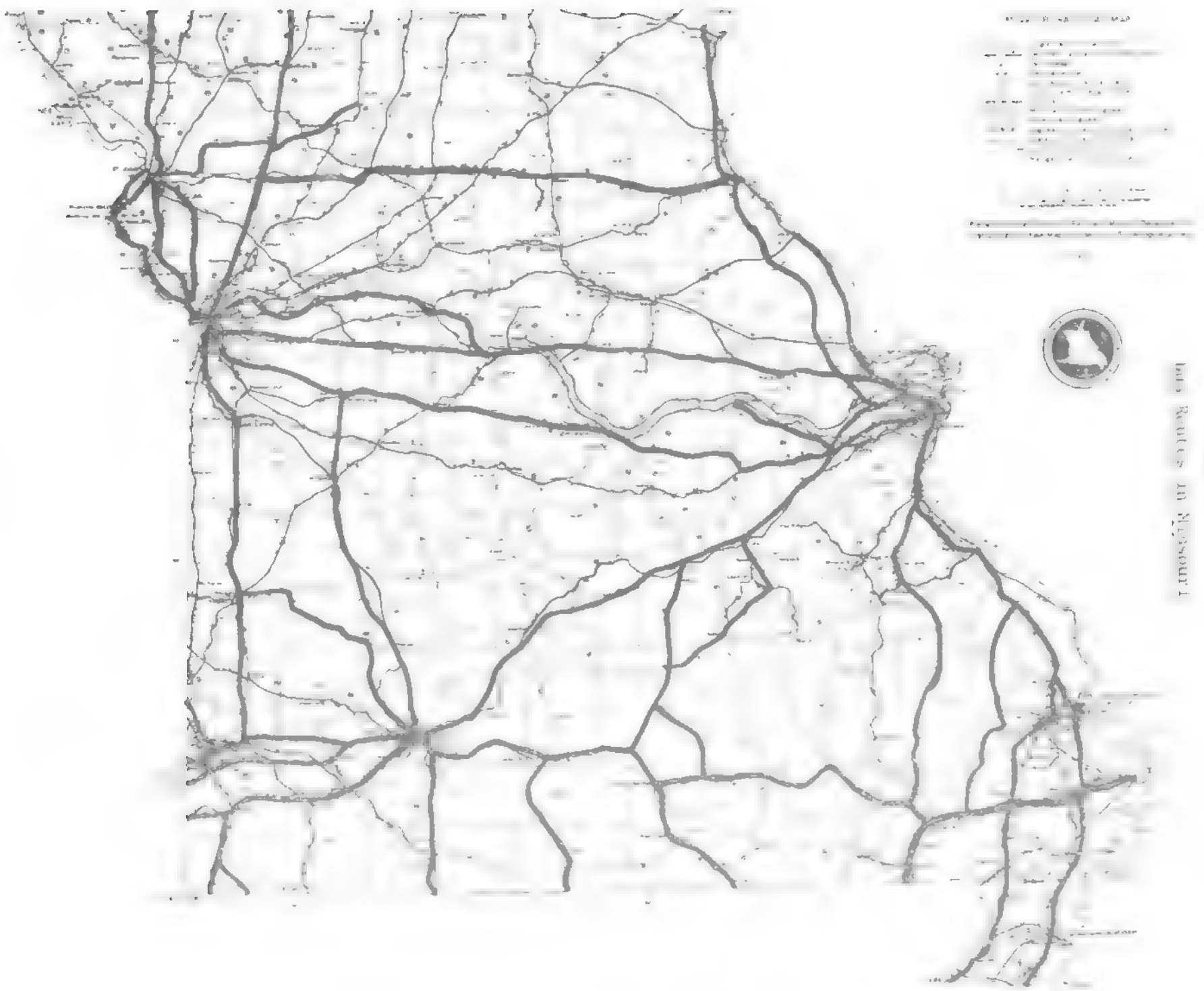


Table 4-4

Current Missouri Airline Operations

the principal intrastate and interstate airline operations, parallel to the time rail and highway ground corridors across Missouri, are shown in this table.

	From	Daily Flights	Fastest Time
St. Louis Commercial	Kansas City	19	45 min.
Commuter Air Carriers		2	1 hr. 50 min.
St. Louis Commercial	Memphis	13	52 min.
Commuter Air Carriers		1	2 hrs. 20 min.
St. Louis Commercial	Joplin	4	1 hr. 15 min.
St. Louis Commercial	Springfield	7	40 min.
St. Louis Commercial	Jefferson City/ Columbia	4	29 min. Columbia
Commuter Air Carriers		4	35 min. Jefferson City
		1	50 min. Columbia
St. Louis Commuter Air Carriers	Poplar Bluff	4	50 min.
Poplar Bluff Commuter Air Carriers	St. Louis	4	55 min.
Kansas City Commercial	Memphis	6	1 hr. 5 min.
Kansas City Commercial	Joplin	3	40 min.
Kansas City Commercial	Springfield	3	39 min.

Table 4-4 (continued)

	From	Daily Flights	Fastest Time
ansas City	Jefferson City/ Columbia		
ommerical		2	48 min. Columbia
ommuter Air Carriers		3	1 hr. Jefferson City
		1	1 hr. Columbia
ansas City	St. Louis		
ommerical		20	50 min.
ommuter Air Carriers		2	2 hrs.
ansas City	Des Moines		
ommerical		7	35 min.
es Moines	Kansas City		
ommerical		5	38 min.

Source: Compiled from Official Airline Guides.

Figure 4-3

Current & Soviet Airline Operation

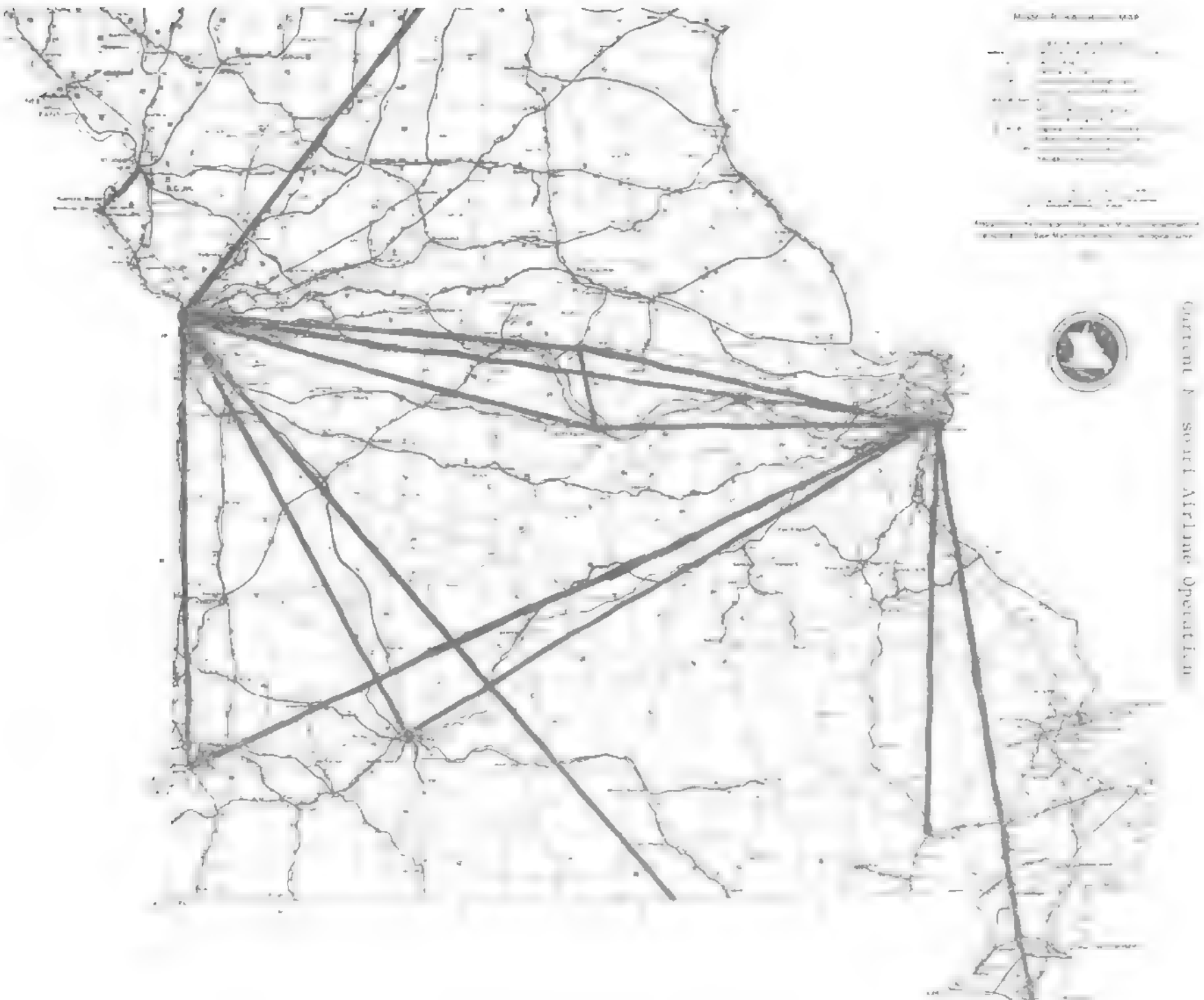
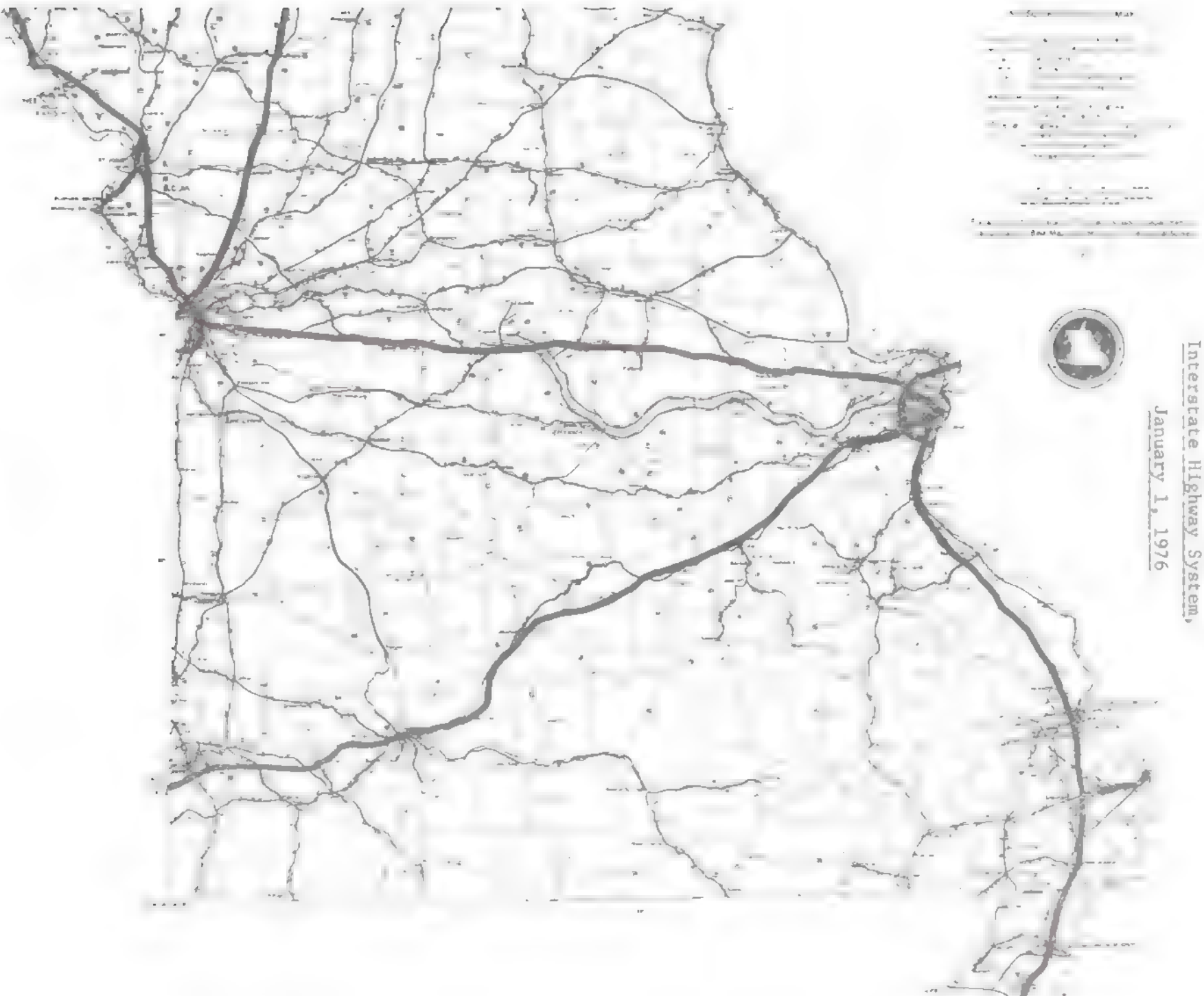


Figure 4-4

Interstate Highway System,

January 1, 1976



CHAPTER V

INDIVIDUAL LINE-BY-LINE ANALYSIS

266.15 (c)(4)(i-xiii)

This chapter contains the results of a detailed line-by-line analysis which was performed on each of those lines which: (i) were granted abandonment approval since February 5, 1976, and (ii) those lines with pending abandonment applications before the ICC. The analysis of each eligible line indicates the planning recommendation or conclusions reached regarding the continuation of rail service; if sufficient need for such continuation cannot be established, the line is not recommended for funding. The information contained in this chapter of initial analyses was, for the most part, supplied by the railroads, and has not been completely verified by MoDOT. Railroad information was used primarily due to the lack of any other detailed, informative data source; MoDOT continually welcomes and seeks additional data and input from either shippers or concerned citizens of this state.

Each of ten lines analyzed in this chapter (with the exception of those lines where the track has already been scheduled for removal) shall contain the following information: (i) line identification; (ii) line status; (iii) location; (iv) present condition; (v) service; (vi) present and future needs; (vii) freight traffic; (viii) cost/revenue data; (ix) impact on state transportation needs; (x) summary data; (xi) rail banking; (xii) discussion, and; (xiii) projected future after expiration of federal assistance.

Maitland to Skidmore

This BN line from Maitland, Mo. to Skidmore, Mo. (5.9 miles in length) was approved for abandonment by the ICC (Docket No. AB6-26) on January 21, 1977. The line is located in Holt and Nodaway Counties, Missouri.

An environmental threshold assessment survey was prepared by the ICC with the conclusion that no significant impact would result from the abandonment and that economic advantages to be gained and the burdens to be avoided by the BN and interstate commerce outweighed any adverse environmental

factors. Following abandonment approval, no persons or governmental entities made any offer of financial assistance for either the continued operations or acquisition of the line.

A complete line analysis was not performed on this line; it was eliminated from further study because of the scheduled removal of the track by June 7, 1978. For the above reasons, this line is not recommended for financial assistance.

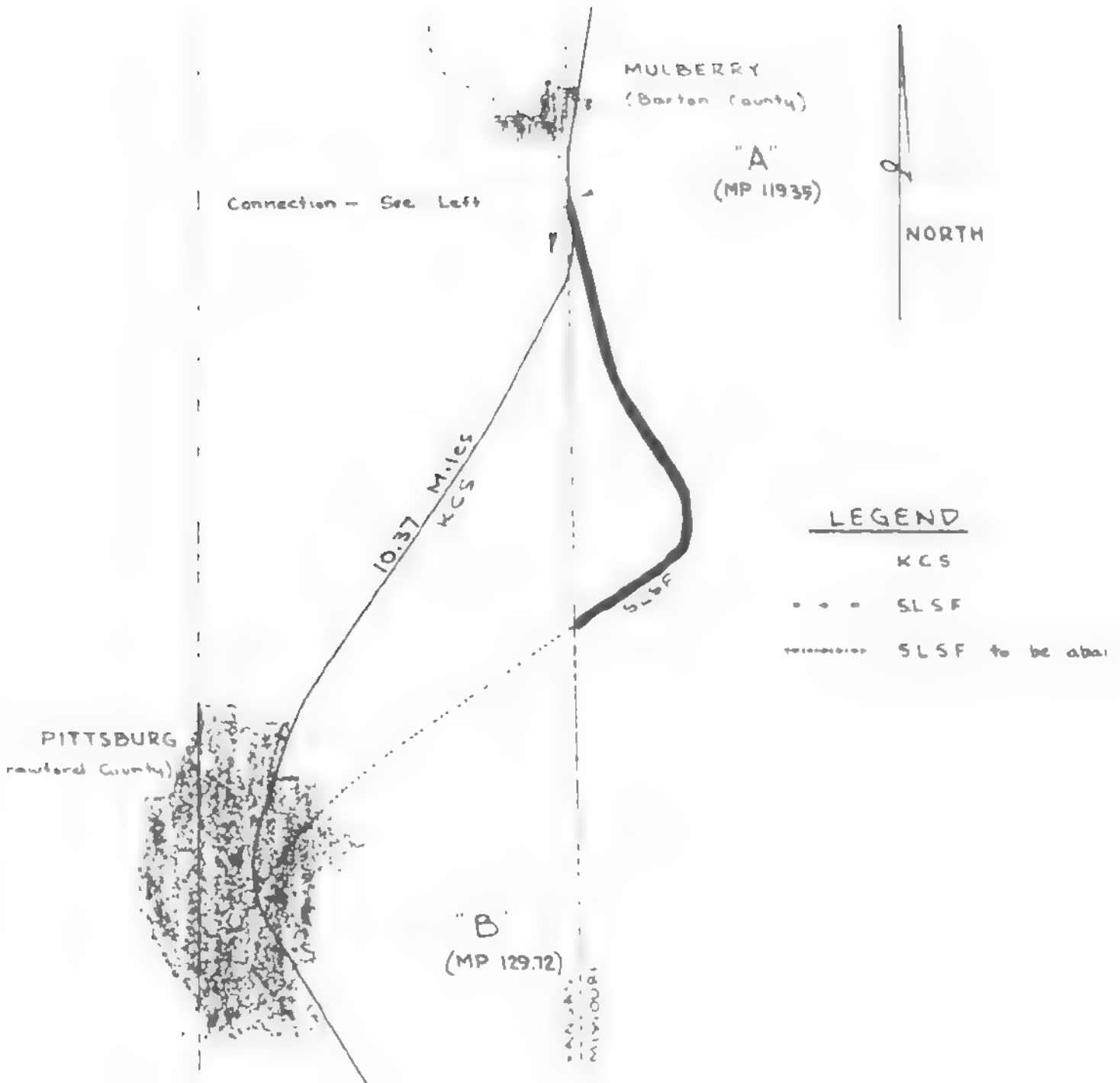


Pittsburg, Ks. to Mulberry, Ks.

This Frisco line runs from Mulberry, Ks., in a southerly direction through Mindenmines, Mo. to Pittsburg, Ks.; 7 miles of the total 14 are in Missouri. The line is located in Crawford County, Kansas and Barton County, Missouri. On April 30, 1976 the Frisco filed an application on intent to abandon (AB 9-5) with the ICC; at the same time, the Frisco applied for acquisition of trackage rights over the KCS line from Mulberry to Pittsburg, Ks. On August 10, 1976 both the abandonment and requested trackage right, were approved by the ICC.

When in service the line carried overhead traffic of 550 cars per month with no traffic either originating or terminating on the line. With the continued service provided over the KCS no shippers were adversely affected by the abandonment. Both the abandonment and substitution of trackage rights over the KCS were sought due to severe deterioration of Frisco's track. The ICC found that track condition and low traffic volume did not justify the necessary expense of upgrading and that both the abandonment and acquisition of trackage rights would produce greater economy and efficiency, thereby resulting in ultimate improvements in transportation service to the public.

A complete line analysis was not performed on this line; it was eliminated from further study because of scheduled track removal by the middle of 1978. For the above reasons, this line is not recommended for financial assistance.



Franklin to Fayette

This Katy line from Franklin (MP 0-105.1) to Fayette (MP 0-94.63) is 10.5 miles in length located solely within Howard County, Missouri. The ICC granted abandonment of the line (Docket No. AB 102-7) January 30, 1978; the line went out of service March 31, 1978.

An environmental threshold assessment was prepared by the ICC with the conclusion that no significant impact would result from the abandonment of this line. However following abandonment approval there has been interest expressed in preliminary discussions on the possibility of acquiring the line in order to handle projected large volumes of coal.

For this reason, MoDOT, which is involved in this possible offer of financial assistance, feels that additional study and analysis of the line is warranted. Therefore, the Department is keeping abreast of the situation and offering assistance when possible and on an "as needed" basis as an initial step into this detailed study.

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12-11-51 US H1-4W41

STATE HIGHWAY

— MAJOR COUNTY ROAD

----- OTHER COUNTY ROADS

3113人

NEW FRANKLIN

1-6

McBaine to Columbia

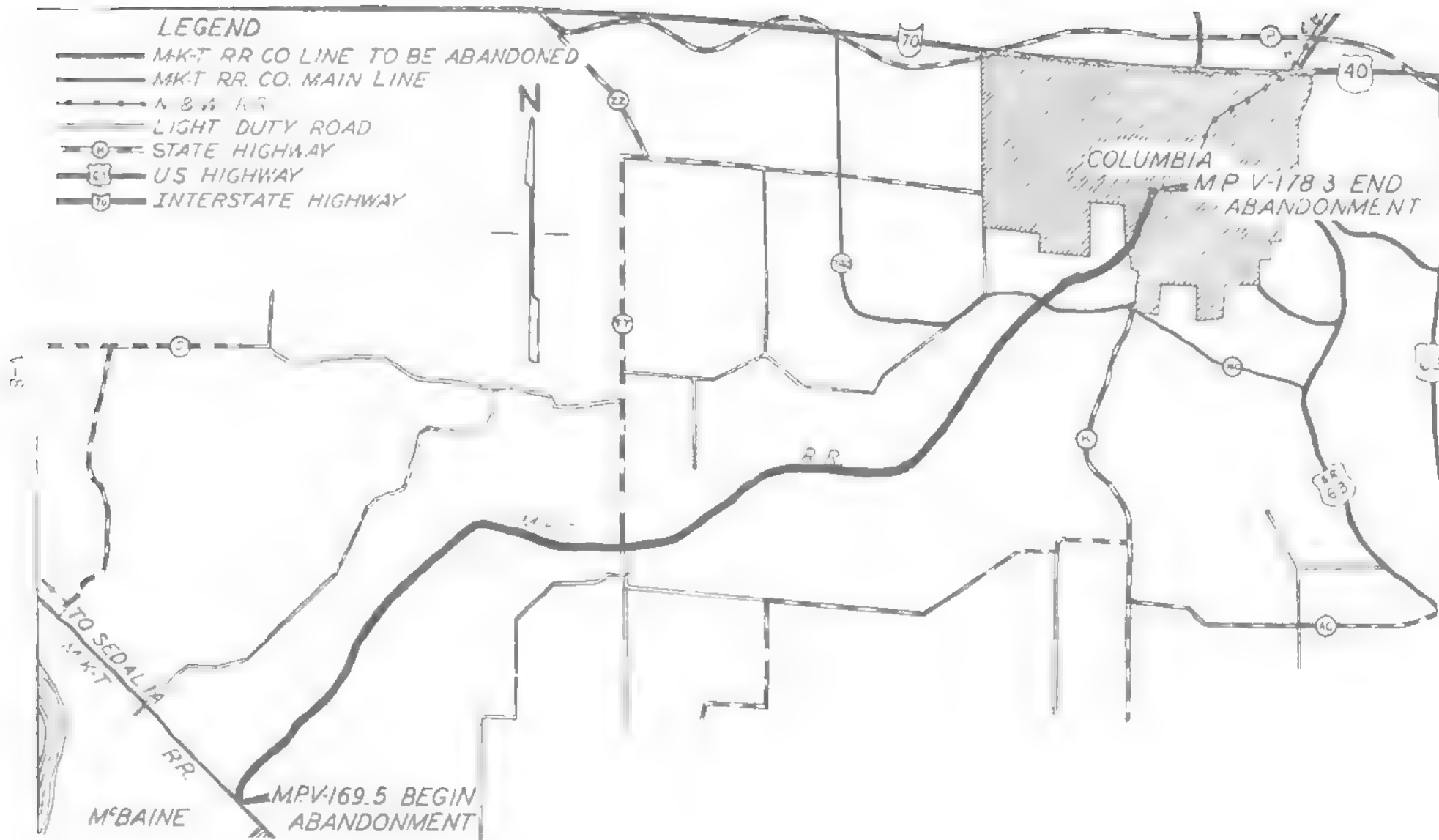
This Katy line runs from McBaine, Mo. to Columbia, Mo. (8.5 miles in length) and is located wholly within Boone County, Missouri. The ICC granted abandonment of the line (Docket No. AB 102-4) October 7, 1977 and the line went out of service January 9, 1978.

An environmental threshold assessment was prepared by the ICC with the conclusion that no significant impact would result from the abandonment of this line. The City of Columbia is currently in the process of attempting to get a federal grant to assist in acquiring the right-of-way for a rails to trails park, in which, MoDOT has played a minor role.

A complete line analysis was not performed on this line; it was eliminated from further study because of scheduled removal of the track by the middle of 1978. For the above reasons, this line is not recommended for financial assistance.

LEGEND

- MKT RR CO LINE TO BE ABANDONED
- MKT RR. CO. MAIN LINE
- N & W RR
- LIGHT DUTY ROAD
- STATE HIGHWAY
- US HIGHWAY
- INTERSTATE HIGHWAY



Richmond - B.C. Junction

(i) LINE IDENTIFICATION

ICC Docket No.: AB 52-4

Line segment: Richmond, Mo. - B.C. Junction, Mo. 59.7 miles

Railroad: Santa Fe

(ii) LINE STATUS

Conditional approval of abandonment granted July 14, 1977. There was an extension of time granted (decided Jan. 26, 1978) for the filing of a formal offer of assistance by an independent business located in Plattsburg, Mo.

(iii) LOCATION

Between Richmond and B.C. Junction in Ray, Clay, Clinton and Buchanan Counties in Missouri.

(iv) PRESENT CONDITION

This line constitutes the central portion of Santa Fe's branch line running northeasterly from Henrietta, Mo., approximately 5 miles southeast of Richmond, to St. Joseph, Mo., approximately 10 miles northwest of B.C. Junction. From Richmond the line passes through the stations of Lawson (pop. 1,034) at MP 24.8, Lathrop (pop. 1,268) at MP 35.7, Plattsburg (pop. 1,832) at MP 43.8, and Gower (pop. 758) at MP 52.9 before reaching B.C. Junction at MP 65 + 1341. Only Lawson is served by other railroads: the Milwaukee Road, and the Rock Island.

This line is considered to be in poor condition, 10/20 mph is maximum speed allowed. Line has been kept at a minimum level of maintenance since 1971. Fire damaged 2 bridges on this line in July 1974 to the extent that they are considered unusable (estimated cost of repair \$124,800).

(v) SERVICE

In September 1971 all service between Gower and B.C. Junction (12.3 miles) was discontinued. Bridge traffic between St. Joseph and points on Santa Fe's

main line north of Henrietta and traffic between St. Joseph and points on the line itself have been routed via Henrietta, Kansas City, and Topeka, Ks. for the carriers convenience; (Santa Fe does not provide passenger service over the line). Freight service consists of a weekly train from Richmond to Gower and return. Level of service is increased during peak seasons.

(vi) PRESENT AND FUTURE NEEDS

The region's economy has historically been agricultural. Prior to 1969, the principal crop was corn, most of which was fed to cattle locally. In a normal harvest year, approximately 45 percent of the corn and sorghum, 90 percent of the wheat, and 95 percent of the soybeans will be shipped out of the area with the remainder consumed locally. When the harvest is poor, the percentages of grain consumed locally will rise, bearing little excess for shipment by rail.

(vii) FREIGHT TRAFFIC

The area surrounding this line is primarily agricultural and shipments over the line in the past several years have consisted primarily of corn, wheat, sorghum, soybeans, fertilizer, feed, farm implements, and lumber. Traffic density has never been higher than 7.8 carloads per mile per year since 1972.

YEAR	TRAFFIC ORIGINATING ON THE LINE		TRAFFIC TERMINATING ON THE LINE		TOTAL TRAFFIC	
	<u>CARLOADS</u>	<u>TONS</u>	<u>CARLOADS</u>	<u>TONS</u>	<u>CARLOADS</u>	<u>TONS</u>
1972	204	17,670	163	11,950	367	29,620
1973	230	19,046	136	10,451	366	29,497
1974	134	10,541	110	8,169	244	18,710
1975	124	*	98	*	222	*

* not provided

(viii) COST/REVENUE DATA

NET RAILWAY OPERATING INCOME

1972	\$123,446
1973	137,899
1974	87,845
1975 (first 6 months)	20,066

TRANSPORTATION EXPENSES

1972	\$ 33,176
1973	25,697
1974	25,286
1975 (first 6 months)	15,587

TOTAL EXPENDITURES

1972	\$186,937
1973	189,435
1974	202,198
1975 (first 6 months)	82,698

MAINTENANCE EXPENDITURES

1972	\$ 12,488
1973	12,480
1974	38,221
1975 (first 6 months)	32,861

NET PROFIT/LOSS

1972	\$ 63,491 loss
1973	51,536 loss
1974	114,353 loss
1975 (first 6 months)	62,632 loss

PROPERTY TAXES

1972	\$ 87,810
1973	89,228
1974	92,244
1975	103,209

Net salvage value of the line, excluding the value of the right-of-way, was estimated at \$1,595,000. Of the total right-of-way of 781.1 acres, Santa Fe owns title to 3.4 acres; remaining property is used under easement or other limited instruments.

(ix) IMPACT ON STATE'S TRANSPORTATION NEEDS

There is little doubt that several businesses will be inconvenienced and could suffer financial losses, especially in the Gower area. Basically, such loss will result from higher transportation costs arising from the use of trucks. Should direct rail service be abandoned, shippers and receivers would have to rely on either truck or truck/rail transport. Alternative rail service is available at Lawson (Rock Island, Milwaukee Road), at Richmond (Santa Fe), at Osborn and Cameron (BN; Osborn is 14 miles north of Plattsburg, Cameron 21 miles north of Lawson), and at Kansas City and St. Joseph (numerous rail carriers). Various highways, including I-29 and I-35, US 69 and 169, State 33 and 116, link the affected area with Kansas City and St. Joseph.

(x) RAIL BANKING

This line is not being considered for rail banking.

(xi) DISCUSSION

If this line were to be retained in service at the same frequency of use and with the same speed restrictions as at present, annual maintenance of ways and structure during the period 1976-1980 would average \$68,600 for the line, or \$1,143 per mile of road. Upgrading the line to reinstitute through service would first require repairs to the 2 bridges, discussed above. In addition, track improvements to allow maximum train speeds of 40 mph would cost \$1,192,500. Once such repairs were accomplished, maintenance costs to permit operations 6 days a week at 40 mph would average \$164,500 per year for the line, or \$2,742 per mile of road.

Upon a review of the entire record, MoDOT must conclude that the public convenience and necessity permit abandonment of the entire line. While some inconvenience may result to both shippers and communities along the line, the record does not support a conclusion that this inconvenience will outweigh the future burden on the Santa Fe and on interstate commerce. MoDOT must consider the present and future needs of the affected communities for continued operation. MoDOT agrees with the findings of the Administrative

Law Judge's that protestants' have not demonstrated a substantial dependence upon the line for future economic growth. Further, protestants' evidence as to increased need in future years consists largely of speculative assertions as to such need with little or no assurance that Santa Fe will be able to reduce its losses from the operation of its line of railroad.

Finally, it should be noted that provisions of the 4R Act and the "Procedures for Pending Rail Abandonment Cases" permits shippers and receivers to arrive at a reasonable means of continuing such rail service as they may desire. Under these procedures it may be possible for some financially responsible person to subsidize continued operation or to purchase for the purpose of operation, all or a portion of the line, especially the segment from Lawson to Gower. MoDOT finds that these procedures allow a reasonable opportunity for the protestants to negotiate for continued service where such service otherwise would unduly burden interstate commerce.

(xii) PROJECTED FUTURE AFTER EXPIRATION OF FEDERAL ASSISTANCE

Should federal assistance be sought and be granted, it is anticipated that upon the expiration of the federal assistance, the carrier will abandon service and the track will be removed upon the expiration of statutory waiting periods. The only possible exception would be the seventeen mile segment between Lawson and Plattsburg which is the focal point of local shipper interest.

Maryville - Barnard

(i) LINE IDENTIFICATION

ICC Docket No.: AB 6-16

Line Segment: Maryville - Barnard, Mo., 13.7 miles

Railroad: BN

(ii) LINE STATUS

Conditional approval of abandonment granted October 12, 1977.

(iii) LOCATION

Between Maryville and Barnard in Nodaway County, Missouri.

(iv) PRESENT CONDITION

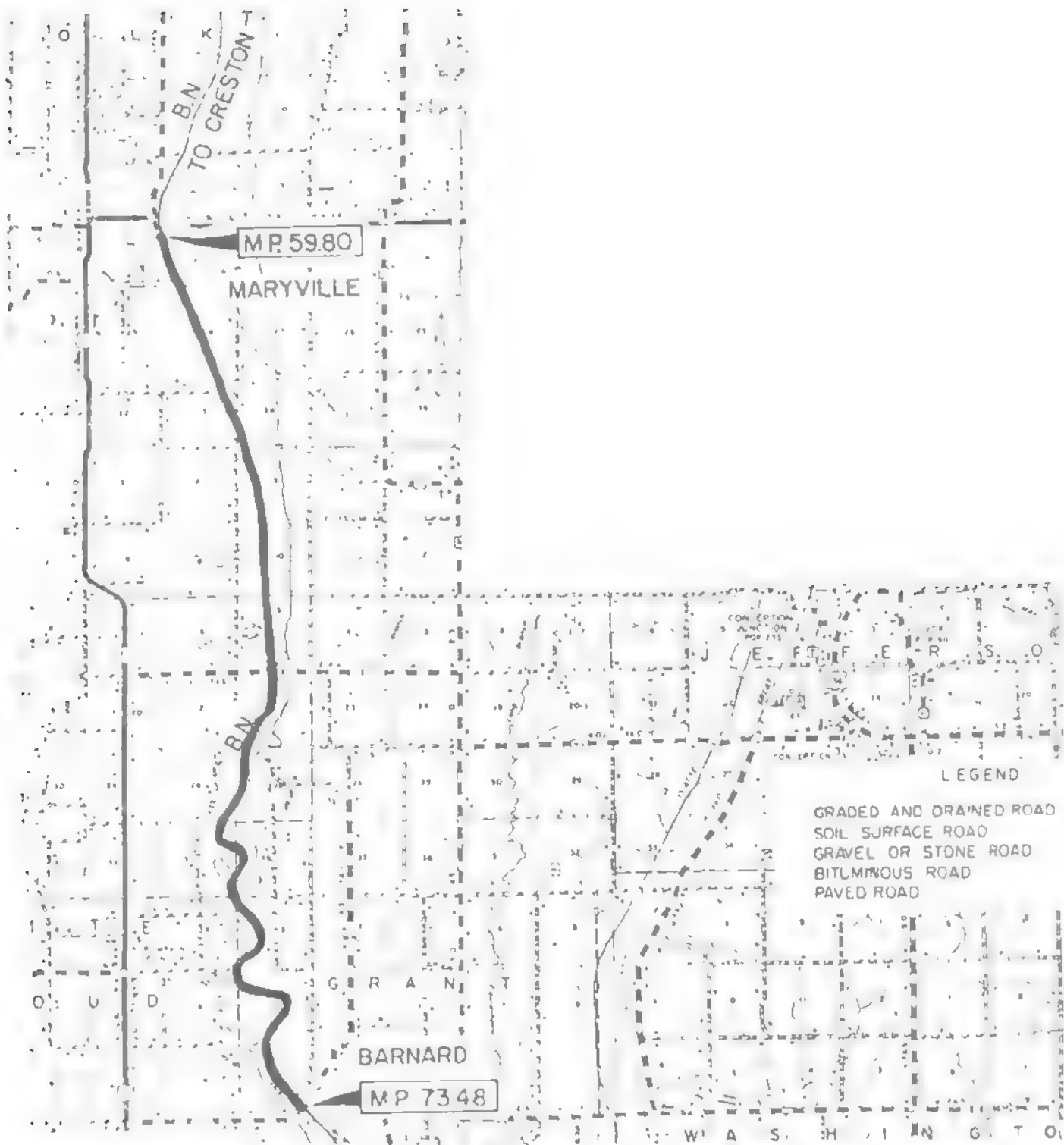
Line is considered to be in fair to poor condition with a maximum authorized speed of 25 mph on unrestricted portions. There are numerous 10 mph restrictions. The weight limit is 220,000 lbs; ruling grades in both directions are .95 percent and the maximum curvature is 3°.

(v) SERVICE

Present service is only as required. Existing train service is provided from Creston, Ia. A train operates from Creston, Ia. to Barnard through Maryville on Monday and Friday and from Creston to Maryville on Wednesday. Stations on the line include: Maryville (pop. 10,400), Arkoe (pop. 36), and Barnard (pop. 237).

(vi) PRESENT AND FUTURE NEEDS

The nature of the industries in this area is primarily agricultural; there is no passenger service provided. The line handles no local or bridge traffic. Classified by principal commodities, the following freight moved between points on the line and points beyond during periods indicated include:



ITEM	1975		1976		1977 (Jan.-Mar.)	
	CARS	TONS	CARS	TONS	CARS	TONS
FORWARDED:						
Corn	78	4,462	8	445	0	0
Milo	0	0	1	55	0	0
Soybeans	43	2,427	20	1,100	14	762
Wheat	7	415	0	0	0	0
RECEIVED:						
Fertilizer	3	128	0	0	0	0
Salt	1	40	0	0	0	0

(vii) COST/REVENUE DATA

TOTAL RAILWAY OPERATING REVENUE:

1975	\$37,589
1976	12,858
1977 (Jan.-Mar.)	4,206

MAINTENANCE AND OPERATION COSTS:

1975	\$45,502
1976	41,191
1977 (Jan.-Mar.)	13,615

MILEAGE PRORATE OF LINE TRAFFIC:

1975	\$1,603
1976	735
1977 (Jan.-Mar.)	178

NET DEFICIT

1975	\$43,000
1976	39,047
1977 (Jan.-Mar.)	13,130

The present state of maintenance of the line is considered to be poor. Maintenance expenditures were over \$13,000 in 1975, over \$11,000

in 1976, and over \$5,000 in the first 3 months of 1977. Total rehabilitation cost is estimated at \$212,400, comprised of \$160,400 for materials (basically ties and surfacing) and \$52,000 for labor. Net salvage value is estimated at \$25,400.

(viii) IMPACT ON STATE'S TRANSPORTATION NEEDS

This line is considered to be in poor condition due to its proximity to the "101 River" and washouts occur seasonally. The CNW is considered a parallel rail route being 11-13 miles to the west; parallel highways include US 71 and State 27. Evidence shows that if abandonment is approved industries located in the area will utilize more common carriers.

(ix) RAIL BANKING

This line is not being considered for rail banking.

(x) DISCUSSION

Evidence shows a declining volume of shipments attributable to the line and no evidence was submitted to indicate any potential for increased future use of rail service on the line. The ICC's initial decision of September 29, 1977 stated that, subject to the imposition of conditions for the protection of railway employees as prescribed in Chicago, B&O RR Co. Abandonment, 207 ICC 700, the present and future public convenience and necessity permit abandonment of the line.

(xi) PROJECTED FUTURE AFTER EXPIRATION OF FEDERAL ASSISTANCE

Should federal assistance be sought and granted, it is anticipated that upon the expiration of the federal assistance, the carrier will abandon service and the track will be removed upon the expiration of statutory waiting periods.

Willow Springs - Winona

(i) LINE IDENTIFICATION

ICC Docket No.: AB 9-10

Line Segment: Willow Springs - Winona, Mo., 37.9 miles

Railroad: Frisco

(ii) LINE STATUS

Abandonment intent filed January 31, 1978.

(iii) LOCATION

Between Willow Springs (MP S-294.3) and Winona (MP S-332.2) in Howell and Shannon Counties, Missouri.

(iv) PRESENT CONDITION

Track condition is just fair. Most of the rail is light: there are 7.5 miles of 70 lb., 22.2 miles of 75 lb., 8 miles of 85 lb., and approximately 0.2 mile of 115 lb. section. The maximum speed is 25 mph, subject to slow orders. Both grades and curvature are substantial. The present physical condition of the line is such that it will meet minimum FRA Class I safety standards so long as constant, day to day repairs are made upon those items which fail because of poor condition and age.

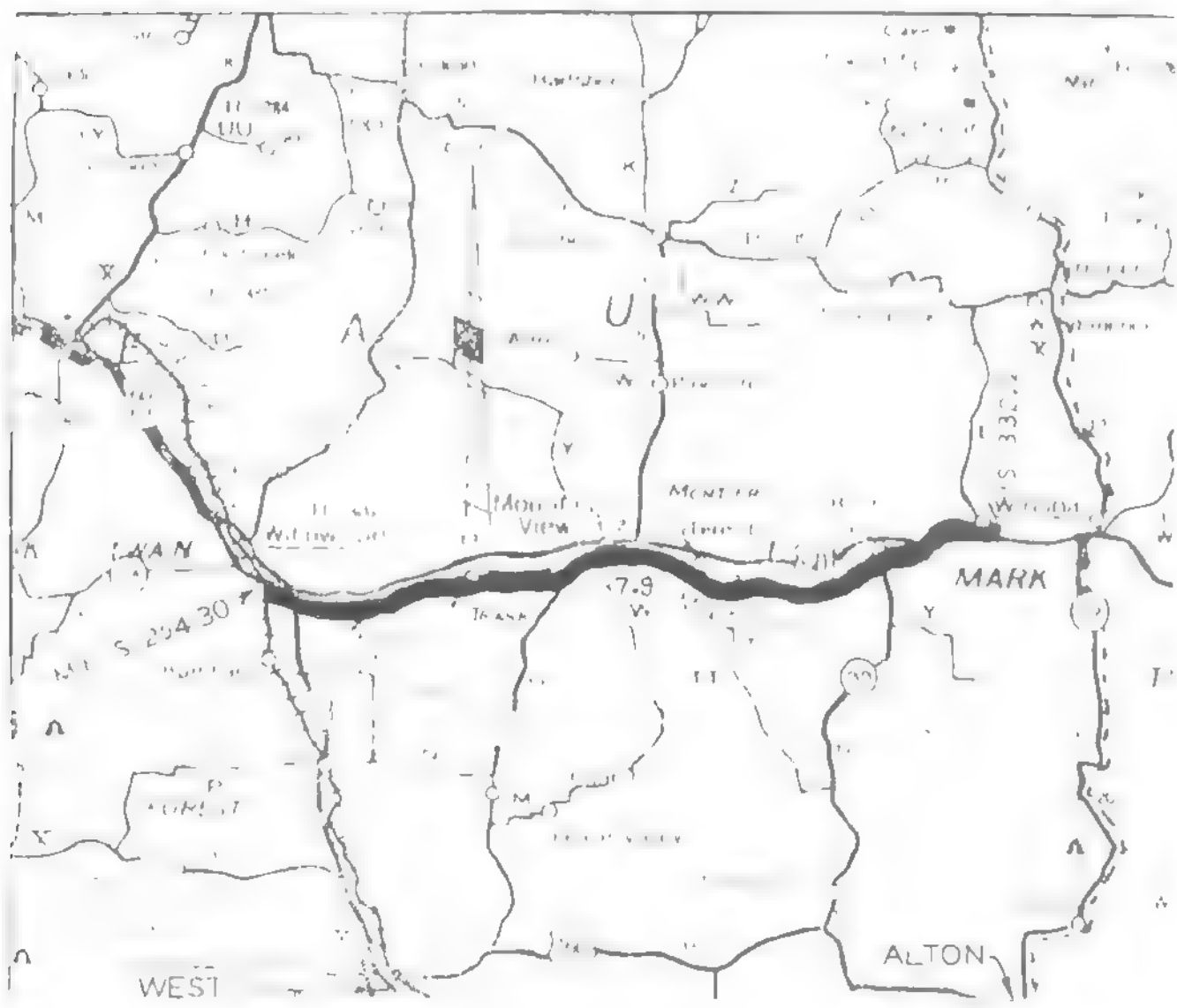
(v) SERVICE

Service is on an "as required" basis; there is no passenger service provided on this line. There was no bridge traffic over the line in 1975, 1976, or the base year.

(vi) PRESENT AND FUTURE NEEDS

The name of each community on the line that would be affected and the population of each (1977 figures) is as follows:

Willow Springs	2,045
Hutton Valley	70
Mountain View	1,320
Montier	no population
Birch Tree	573
Winona	973



This area is lightly populated, has little manufacturing, and, for the most part, must be considered agricultural. What little industrial development that has occurred has been light industrial and, in general, has gravitated toward motor carriers. However, there is a distinct possibility that a new lead mine will be opened in the Winona area within the next 3 years; currently several industries are in the process of leasing between 80,000 to 100,000 acres of land for heavy lead exploration.

Train service over the line totals:

1975	154
1976	149
1977 (Jan.-Aug.)	97

Carload commodity group tonnage on the line is as follows:

COMMODITY	1975		1976	
	CARS	TONS	CARS	TONS
Hay	2	41	-	-
Grain Mill Products	5	130	3	75
Feed	297	11,359	383	14,906
Molasses	1	96	2	195
Sawed Logs	18	646	-	-
Lumber	141	6,320	129	5,942
Ties	135	6,997	87	3,783
Hardwood Flooring	1	30	2	105
Shingles	1	28	-	-
Skids, Pallets or Platforms	14	410	15	491
Wood Reels or Spools	2	86	-	-
Newsprint	1	20	-	-
Wallboard	1	25	-	-
Potassium Compound	15	1,139	35	2,620
Ammonia or Ammonium Compound	4	224	30	2,144
Superphosphate	33	2,657	42	3,296
Fertilizer	4	228	11	582
Adhesives	1	31	-	-
Salt	2	100	1	40
Petroleum	1	33	-	-
Liquified Gas	19	1,385	13	959
Hydraulic Cement	22	1,224	6	228
Railway Track Material	1	41	-	-
Shavings or Sawdust	-	-	8	235
Wood Products	-	-	1	32
Acyclic Organic Chemicals	-	-	2	120
Scrap Metal	-	-	1	56

Misc. Mixed Shipments	-	-	1	40
Bread or Bakery Products	-	-	-	-
Paper Products	-	-	-	-
Totals	721	33,250	772	35,849

COMMODITY	BASE YEAR SEPT. 76 - AUG. 77	
	CARS	TONS
Hay	-	-
Grain Mill Products	1	25
Feed	443	17,602
Molasses	1	97
Sawed Logs	16	660
Lumber	91	4,549
Ties	46	2,166
Hardwood Flooring	2	118
Shingles	-	-
Skids, Pallets or Platforms	7	226
Wood Reels or Spools	-	-
Newsprint	1	23
Wallboard	1	26
Potassium Compound	25	1,866
Ammonia or Ammonium Compound	41	3,057
Superphosphate	29	2,256
Fertilizer	13	816
Adhesives	-	-
Salt	-	-
Petroleum	-	-
Liquified Gas	15	1,109
Hydraulic Cement	3	90
Railway Track Material	-	-
Shavings or Sawdust	-	-
Wood Products	-	-
Acyclic Organic Chemicals	2	100
Scrap Metal	-	-
Misc. Mixed Shipments	-	-
Bread or Bakery Products	1	80
Paper Products	1	18
Totals	739	34,924

(vii) FREIGHT TRAFFIC

(i) Shipper characteristics (major users):

Mountain View	5	Fertilizer, prepared feed, ammonia, lumber, potassium com- pound, hardwood stock
Birch Tree	2	Prepared feed, fertilizer, lumber, ammonia, potassium com- pound
Winona	1	Ties, pallets, skids

(ii) Density: 1 or less MGTM annually.

(viii) COST/REVENUE DATA

	<u>1975</u>	<u>1976</u>
Revenues Attributable For:		
1. Freight Originated and Terminated on Branch	\$ 241,526	\$ 252,715
2. All Other		
3. Total Revenue Attributable		
Avoidable Costs For:		
4. Off Branch Costs	\$ 114,317	\$ 130,792
5. On Branch Costs:		
(a) Maintenance of Way and Structures	86,518	29,187
(b) Maintenance of Equipment	5,254	5,849
(c) Transportation	47,143	56,417
(d) Freight Train Car	11,089	13,318
(e) Fringe Benefits	10,008	12,719
(f) Locomotive Return on Investment	2,289	2,572
6. Total Avoidable Costs	276,618	250,854
Subsidization Costs For:		
7. Rehabilitation	-	-
8. Administration Costs (Subsidy Year Only)	-	-
9. Total Subsidization Costs	-	-

Return on Value For:

10. Valuation of Property:			
(a) Working Capital	\$ 11,286	\$ 10,309	
(b) Income Tax Benefits	-	-	
(c) Net Liquidation Value	\$ 269,137	\$ 269,137	
11. Rate of Return	11.7%	11.2%	
12. Total Return on Value (Line 10 times Line 11)	\$ 32,809	\$ 31,298	
13. Avoidable Loss from Operation (Line 3 minus Line 6)	\$ 35,092	\$ (1,861)	
14. Estimated Subsidy (Line 3 minus Line 6,9 and 12)	\$ 67,901	\$ 29,437	

Base Year Sept 1976- Aug. 1977	Projected Subsidy Year Operation
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Revenues Attributable For:

1. Freight Originated and Terminated on Branch	\$ 245,589	\$ 259,588
2. All Other		
3. Total Revenue Attributable		

Avoidable Costs For:

4. Off Branch Costs	\$ 119,034	\$ 131,056
5. On Branch Costs:		
(a) Maintenance of Way and Structures	41,663	45,871
(b) Maintenance of Equipment	5,978	6,582
(c) Transportation	68,811	75,761
(d) Freight Train Car	12,700	13,983
(e) Fringe Benefits	16,624	18,303
(f) Locomotive Return on Investment	2,641	2,908
6. Total Avoidable Costs	\$ 267,451	\$ 294,464

Subsidization Costs For:

7. Rehabilitation	-	\$ -
8. Administration Costs (Subsidy Year Only)	-	2,596
9. Total Subsidization Costs	-	2,596

Return on Value For:

10. Valuation of Property:			
(a) Working Capital	\$ 10,991	\$ 12,101	
(b) Income Tax Benefits	-	-	
(c) Net Liquidation Value	\$ 269,137	\$ 269,137	
11. Rate of Return	11.2%	11.2%	
12. Total Return on Value (Line 10 times Line 11)	\$ 31,374	\$ 31,499	

13. Avoidable Loss From Operation (Line 3 minus Line 6)	\$	21,862	\$	34,876
14. Estimated Subsidy (Line 3 minus Line 6,9 and 12)	\$	53,236	\$	68,971

(ix) IMPACT ON STATE'S TRANSPORTATION NEEDS

There are no parallel rail routes to this line; however, if abandonment were approved, rail service to Willow Springs, the most highly concentrated area of rail users, would continue receiving rail service over the Frisco main line Springfield to Thayer. Parallel highway to this route is US 60.

(x) SUMMARY DATA

	<u>1975</u>	<u>1976</u>	<u>Jan.-Aug. 1977</u>
(1) Saving in Operating Expenses and Charges	\$ 276,618	\$ 250,854	\$ 191,412
(2) Less: Loss of Operating Revenue	\$ 241,526	\$ 252,715	\$ 175,634
(3) Increase in Taxable Income	\$ 35,092	\$ (1,861)	\$ 15,778
(4) Effective Tax Rate	23.82%	22.91%	0%
(5) Increase in Federal Income	\$ 8,359	\$ (426)	-
(6) Increase in Net Railway Operating Income (3-5)	\$ 26,733	\$ (1,425)	\$ 15,778

(xi) RAIL BANKING

This line is not being considered for rail banking.

(xii) DISCUSSION

The properties to be abandoned would not likely be suitable for other public purposes. The approximately 37.9 miles of right-of-way parallels US 60 and the sparse population would not warrant an additional parallel highway. The light population density would not require its use for mass transit purposes. On the other hand, the possibility of industrial growth in the area in addition to the local populace and shippers forming a shippers association to protest the proposed abandonment, MoDOT feels that additional study and analysis of the line is warranted. Therefore, the Department has requested information and various data from local shippers in order to hold

a benefit/cost ratio analysis on the line as an initial step into this detailed study.

(xiii) PROJECTED FUTURE AFTER EXPIRATION OF FEDERAL ASSISTANCE

Should federal assistance be sought and granted, it is anticipated that upon expiration of the federal assistance, the carrier would continue service over the line if the expected industrial growth (i.e. lead mine) becomes reality. If this possibility did not come about then it is expected that both service and removal of track would come about upon expiration of statutory waiting periods.

Because it found that extensive exploratory drilling for lead is being conducted by lead mining companies near the terminus of this line, the Frisco has asked for permission to withdraw its abandonment application and for ICC dismissal of its application. The request was made in a motion filed March 16, 1978.

The Frisco believes consideration of the application would be premature, and that time should be allowed the mining companies to explore the lead producing capabilities of Shannon County.

East Lynne - Bolivar

(i) LINE IDENTIFICATION

ICC Docket No.: AB9-9

Line Segment: East Lynne - Bolivar, Mo., 101.0 miles

Railroad: Frisco

(ii) LINE STATUS

Abandonment intent filed September 26, 1977.

(iii) LOCATION

Between East Lynne and Bolivar in Cass, Johnson, Henry, St. Clair, Hickory, and Polk Counties in Missouri.

(iv) PRESENT CONDITION

The present physical condition of the line is such that the entire line would meet minimum FRA Class I Safety Standards with the exception of 2 burned out bridges at MP D-72.9 and MP D-73.3. The costs to replace said bridges would be \$44,500 and \$49,000 respectively. Track is in fair condition; rail is mixed ranging from 70 lb. to 112 lb. jointed section. Curvature is substantial, grades are also substantial on southern portion of the line. Maximum speed authorized in unrestricted territory is 35 mph, however there are 24 speed restrictions (5 to 30 mph) found on this line.

The route is broken 7 miles north of Clinton by the burned out bridges which are not scheduled to be restored since an additional line closure is expected to take place south of Clinton when a new dam is constructed inundating a large segment of the line.

(v) SERVICE

Presently, service is provided by a tri-weekly local freight train serving each open line segment.

(vi) PRESENT AND FUTURE NEEDS

The name of each community on the line that would be affected and the population of each (1977 figures) is as follows:

Cliquot	45
Flemington	126
Weaubleau	343
Vista	44
Osceola	874
Lowry City	520
Deepwater	565
N. Clinton	no population
Clinton	7,504
Livingston	no population
Harvey	no population
Maurine	no population
Blairstown	161
Latour	83

(1) Trains operated Kansas City to Clinton:

1975	145
1976	101
1977 (Jan. - Mar.)	none

(2) Trains operated Clinton to Kansas City:

1975	147
1976	107
1977 (Jan. - Mar.)	none

(3) Trains operated Springfield to Clinton:

1975	152
1976	156
1977 (Jan. - Mar.)	38

(4) Trains operated Clinton to Springfield:

1975	146
1976	153
1977 (Jan. - Mar.)	39

Carload commodity group tonnage on the line:

COMMODITY	1975		1976	
	CARS	TONS	CARS	TONS
Field Crops	396	23,686	332	21,816
Gravel or Sand	1	88	3	207
Dairy Products	174	8,852	100	4,972
Canned or Preserved Fruits	1	47		
Grain Mill Products	57	2,559	68	3,280
Bakery Products			5	265
Sugar, Beet or Cane			1	56
Misc. Food Preparations	2	66		
Primary Forest or Wood Raw Materials	54	2,033	51	2,057
Sawmill or Planing Mill Products	40	1,461	125	4,985
Millwork Wood Products	13	349	18	471
Misc. Wood Products	2	81		
Household or Office Furniture	1	5	13	79
Misc. Furniture or Fixtures	1	5	7	37
Paper	6	174	5	168
Paperboard Products	3	38	3	61
Containers or Boxes, Paperboard	78	1,223	72	1,170
Industrial Inorganic Chemicals	53	3,913	81	6,189
Plastic Materials	7	594	11	1,025
Fertilizers	69	5,265	79	5,573
Misc. Chemical Products	7	475	3	213
Petroleum Products	53	2,282	7	335
Paving or Roofing Materials	2	79	1	37
Misc. Petroleum Products	1	51	3	122
Misc. Plastic Products			1	9
Steel Works or Rolling Mill Products	1	26	3	165
Metal Cans	1	6	1	8
Fabricated Structural Metal Products	1	15	1	40
Metal Stampings	6	337	9	535
Farm Machinery	11	144	10	128
Construction Machinery	3	104	6	284
Electrical Industrial Apparatus			1	37
Motor Vehicles	6	260		
Waste or Scrap	12	661	13	646
Misc. Freight Shipments			5	230
Misc. Mixed Shipments	5	285		
Totals	1,067	55,164	1,038	55,200

COMMODITY	Base Year	
	Apr. 76 - Mar. 77	
	CARS	TONS
Field Crops	318	21,042
Gravel or Sand	2	112
Dairy Products	125	6,241
Canned or Preserved Fruits		
Grain Mill Products	71	3,387
Bakery Products	5	275
Sugar, Beet or Cane	1	56
Misc. Food Preparations	1	23
Primary Forest or Wood Raw Materials	33	1,276
Sawmill or Planing Mill Products	114	4,568
Millwork Wood Products	22	605
Misc. Wood Products	5	231
Household or Office Furniture	16	95
Misc. Furniture or Fixtures	5	25
Paper	4	140
Paperboard Products	3	55
Containers or Boxes, Paperboard	80	1,316
Industrial Inorganic Chemicals	93	6,952
Plastic Materials	9	836
Fertilizers	65	4,394
Misc. Chemical Products	9	711
Petroleum Products	10	645
Paving or Roofing Materials	1	37
Misc. Petroleum Products	2	83
Misc. Plastic Products	1	95
Steel Works or Rolling Mill Products	2	120
Metal Cans	1	8
Fabricated Structural Metal Products	1	40
Metal Stampings	12	727
Farm Machinery	10	129
Construction Machinery	9	403
Electrical Industrial Apparatus	1	37
Motor Vehicles	10	633
Waste or Scrap	11	559
Misc. Freight Shipments	1	40
Misc. Mixed Shipments	1	50
Totals	1,054	55,946

(vii) FREIGHT TRAFFIC

(1) Shipper Characteristics (major users):

Lowry City	1	Chemicals, field crops
Clinton	5	Dairy products, machinery, chemicals, wood products, liquified gases, plastic products
Weaubleau	1	Chemicals, grain mill products
Deepwater	1	Construction machinery and trucks
Osceola	2	Chemicals, planning mill products

(2) Density: 1 or less MGTM annually.

(viii) COST/REVENUE DATA

	<u>1975</u>	<u>1976</u>
Revenues Attributable For:		
1. Freight Originated and Terminated on Branch	\$ 390,532	\$ 399,495
2. Demurrage	1,585	920
3. All Other	4,126	5,142
4. Total Revenue Attributable	\$ 396,243	\$ 405,557
Avoidable Costs For:		
5. Off Branch Costs	\$ 172,984	\$ 187,920
6. On Branch Costs:		
(a) Maintenance of Way and Structures	120,559	136,671
(b) Maintenance of Equipment	16,963	15,938
(c) Locomotive Return on Investment	570	494
(d) Transportation	145,984	138,256
(e) Freight Train Car	13,762	16,455
(f) Fringe Benefits	38,078	46,270
7. Total Avoidable Costs	\$ 508,900	\$ 542,004
Subsidization Costs For:		
8. Rehabilitation		\$ 93,500
9. Administrative Costs (Subsidy Year Only)		
10. Total Subsidization Costs		\$ 93,500
Return on Value For:		
11. Valuation of property		
(a) Working Capital	\$ 20,710	\$ 22,108
(b) Income Tax Benefits	-	-
(c) Net Liquidation Value	\$2,079,976	\$2,079,976

12. Rate of Return	11.7%	11.2%
13. Total Return on Line 11 Times Line 12	\$ 245,780	\$ 235,433
14. Avoidable Loss from Operation (Line 4 minus Line 7)	\$ 112,657	\$ 136,447
15. Estimated Subsidy (Line 4 Minus Lines 7, 10, 13)	\$ 358,437	\$ 465,380

	Base Year Apr. 1976- Mar. 1977	Projected Subsidy Year Operation
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Revenues Attributable For:

1. Freight Originated and Terminated on Branch	\$ 417,135	\$ 455,929
2. Demurrage	1,350	1,350
3. All Other	5,142	5,142
4. Total Revenue Attributable	\$ 423,627	\$ 462,421

Avoidable Costs For:

5. Off Branch Costs	\$ 195,651	\$ 224,607
6. On Branch Costs:		
(a) Maintenance of Way and Structures	121,174	139,108
(b) Maintenance of Equipment	15,915	18,270
(c) Locomotive Return on Investment	472	472
(d) Transportation	134,809	154,761
(e) Freight Train Car	16,683	19,152
(f) Fringe Benefits	43,376	49,796
7. Total Avoidable Costs	\$ 528,080	\$ 606,166

Subsidization Costs For:

8. Rehabilitation	\$ 93,500	\$ 93,500
9. Administrative Costs (Subsidy Year Only)		4,624
10. Total Subsidization Costs	\$ 93,500	\$ 98,124

Return on Value For:

11. Valuation of Property		
(a) Working Capital	\$ 21,543	\$ 24,587
(b) Income Tax Benefits	-	-
(c) Net Liquidation Value	\$2,079,976	\$2,079,976
12. Rate of Return	11.2%	11.2%
13. Total Return on Line 11 Times Line 12	\$ 235,370	\$ 235,711
14. Avoidable Loss from Operation (Line 4 Minus Line 7)	\$ 104,453	\$ 143,745
15. Estimated Subsidy (Line 4 Minus Lines 7, 10, 13)	\$ 433,323	\$ 477,580

(ix) IMPACT ON STATE'S TRANSPORTATION NEEDS

An effort has been made to continue rail service to Clinton, Mo., the most highly concentrated area of rail users, through an agreement with the Katy, whereby the Katy would acquire the trackage within Clinton necessary to provide service to present users of rail service. Other than the above (which is not a parallel rail line) there are no parallel railroads to this line; parallel highways include US 71, State 7 and 13.

(x) SUMMARY DATA

	<u>1975</u>	<u>1976</u>	<u>Jan.-Mar. 1977</u>
(1) Savings in Operating Expenses and Charges	\$ 508,900	\$ 542,004	\$ 108,659
(2) Less: Loss of Operating Revenue	\$ 396,243	\$ 405,557	\$ 96,969
(3) Increase in Taxable Income	\$ 112,657	\$ 136,447	\$ 11,690
(4) Effective Tax Rate	23.82%	22.91%	0%
(5) Increase in Federal Income Tax Liability (3x4)	\$ 26,835	\$ 31,260	\$ -
(6) Increase in Net Railway Operating Income (3-5)	\$ 85,822	\$ 105,187	\$ 11,690

(xi) RAIL BANKING

This line is not being considered for rail banking.

(xii) DISCUSSION

Anticipated increases in energy and natural resource consumption is considered minimal. Since approximately 70 percent of the significant users are located at Clinton and they will have continued rail service via the Katy, any increase in energy and natural resources consumption as a result of remaining users changing to alternate means of transportation should be offset by the fuel and resource savings resulting from the continued rail service with the Katy. One important aspect to look into is that a portion of the line will be inundated as a result of the U.S. Corps of Engineers' Truman Dam Project, unless the line is relocated at great expense to the U.S. government.

The environmental threshold assessment survey by the Section of Energy and Environment of the ICC stated on December 27, 1977 that:

- (i) abandonment of the line would obviate the need to relocate 4 segments of right-of-way (16.22 miles) which would be inundated by the Truman Dam and Reservoir project;
- (ii) diversion of rail traffic to motor carrier would not result in an increase in energy consumption, air pollution, or noise levels;
- (iii) abandonment would not have a serious adverse impact on rural or community development, and;
- (iv) the right-of-way is suitable for use for other public purposes.

(xiii) PROJECTED FUTURE AFTER EXPIRATION OF FEDERAL ASSISTANCE

Should federal assistance be sought and be granted, it is anticipated that upon the expiration of such assistance, the carrier will abandon service and remove the track upon the expiration of statutory waiting periods.

Brooks Junction - Vanduser

(i) LINE IDENTIFICATION

ICC Docket No.: AB 9-11F

Line Segment: Brooks Jct. - Vanduser, Mo., 3.8 miles

Railroad: Frisco

(ii) LINE STATUS

Abandonment intent filed February 3, 1978.

(iii) LOCATION

Between Brooks Junction (MP TA-155.0) to Vanduser (MP TA-158.8) in Scott County, Mo.

(vi) PRESENT CONDITION

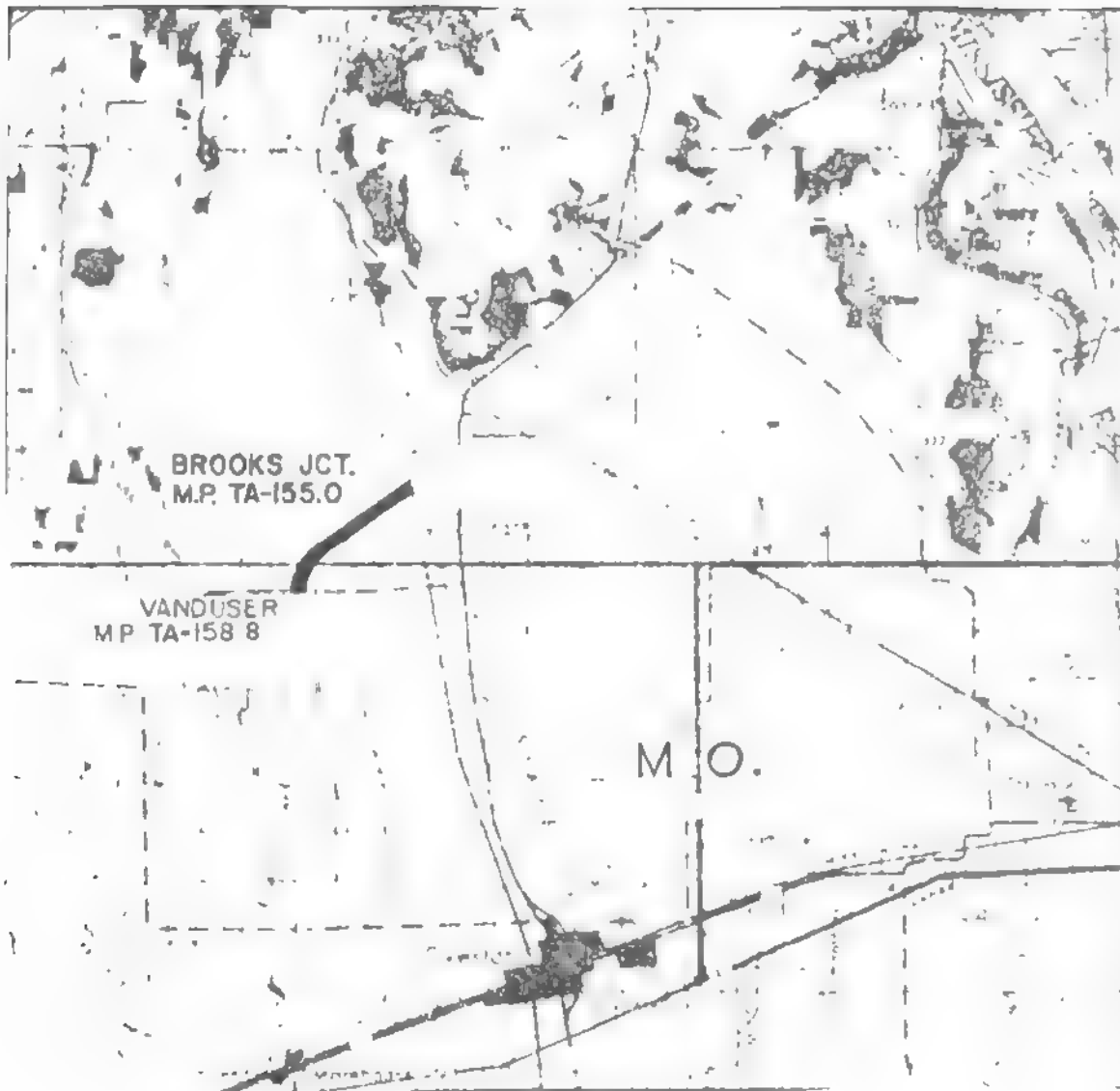
The present physical condition of the line is such that the entire line may not meet minimum FRA Class I Safety Standards at any given point in time. Constant patching is necessary in order to run a train over the line. Line is considered to be in poor condition with mostly 60 lb. rail, it does have 1 mile of 90 lb. rail. Curvature is minimal, grades are non-existent. Line is subject to several slow orders.

(v) SERVICE

Service is bi-weekly (Tuesday and Thursday) when required; when service is required, it is performed by a local train which operates south out of Chaffee on Monday, Wednesday, and Friday. There is no passenger service on the line.

(vi) PRESENT AND FUTURE NEEDS

There is only one community served on the line which is Vanduser (pop. 306). This area is lightly populated with little manufacturing; must be considered as agricultural with little potential for any significant traffic development. There was no bridge traffic over the line in 1976, 1977, or the base year, September 1976 to August 1977.



Carload commodity group tonnage on the line:

COMMODITY	1975		1976	
	CARS	TONS	CARS	TONS
Wheat	9	525		
Soybeans	2	113		
Potassium Compound	6	463	6	435
Supuphosphate	11	911	3	250
Fertilizer	10	809	18	1,558
Sorghum Grains	-	-	10	590
Acyclic Organic Chemical			2	150
Ammonia or Ammonium Corp.			3	254
Anhydrous Ammonia			11	330
Totals	38	2,821	53	3,567

COMMODITY	BASE YEAR SEPT. 76 - AUG. 76	
	CARS	TONS
Wheat		
Soybeans		
Potassium Compound	7	568
Supuphosphate		
Fertilizer	14	1,176
Sorghum Grains	10	590
Acyclic Organic Chemical	2	150
Ammonia or Ammonium Corp.	5	450
Anhydrous Ammonia	4	107
Totals	42	3,041

(vii) FREIGHT TRAFFIC

(i) Shipper characteristics (major users):

Vanduser 2 Potassium compounds, fertilizer
 compound, wheat, soybeans

(ii) Density: 1 or less MGTM annually.

(viii) COST/REVENUE DATA

	<u>1975</u>	<u>1976</u>
Revenue Attributable For:		
1. Freight Originated and Terminated on Branch	\$ 15,884	\$ 22,955
2. All Other		
3. Total Revenue Attributable	\$ 15,884	\$ 22,995
Avoidable Costs For:		
4. Off Branch Costs	\$ 7,942	\$ 11,307
5. On Branch Costs:		
(a) Maintenance of Way & Structures	9,900	11,397
(b) Maintenance of Equipment	164	193
(c) Transportation	1,560	2,056
(d) Freight Train Car	490	632
(e) Fringe Benefits	1,617	2,122
(f) Locomotive Return on Investment	73	84
6. Total Avoidable Costs	\$ 21,746	\$ 27,791
Subsidization Costs For:		
7. Rehabilitation	\$ 10,484	\$ 10,484
8. Administration Costs (Subsidy Year Only)		
9. Rural Subsidization Costs	\$ 10,484	\$ 10,484
Return on Value For:		
10. Valuation of Property		
(a) Working Capital	\$ 894	\$ 1,142
(b) Income Tax Benefits		
(c) Net Liquidation Value	34,592	34,592
11. Rate of Return	11.7%	11.2%
12. Total Return on Value (Line 10 times Line 11)	\$ 4,152	\$ 4,002
13. Avoidable Loss from Operation (Line 3 Minus Line 6)	\$ 5,862	\$ 4,836
14. Estimated Subsidy (Line 3 Minus Lines 6,9, and 12)	\$ 20,498	\$ 19,322

Base Year Sept 1976- <u>Aug. 1977</u>	Projected Subsidy Year <u>Operation</u>
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Revenue Attributable For:		
1. Freight Originated and Terminated on Branch	\$ 18,512	\$ 19,567

2. All Other	\$ 18,512	\$ 19,567
3. Total Revenue Attributable		
Avoidable Costs For:		
4. Off Branch Costs	\$ 8,673	\$ 9,549
5. On Branch Costs:		
(a) Maintenance of Way & Structures	9,302	10,242
(b) Maintenance of Equipment	156	172
(c) Transportation	1,487	1,637
(d) Freight Train Car	544	599
(e) Fringe Benefits	1,749	1,926
(f) Locomotive Return on Investment	59	65
6. Total Avoidable Costs	\$ 21,970	\$ 24,190
Subsidization Costs For:		
7. Rehabilitation	\$ 10,484	\$ 10,484
8. Administration Costs (Subsidy Year Only)		1,957
9. Total Subsidization Costs	\$ 10,484	\$ 12,441
Return on Value For:		
10. Valuation of Property		
(a) Working Capital	\$ 903	\$ 994
(b) Income Tax Benefits		
(c) Net Liquidation Value	34,592	34,592
11. Rate of Return	11.2%	11.2%
12. Total Return on Value (Line 10 Times Line 11)	\$ 3,975	\$ 3,986
13. Avoidable Loss from Operation (Line 3 Minus Line 6)	\$ 3,458	\$ 4,623
14. Estimated Subsidy (Line 3 Minus Lines 6,9, and 12)	\$ 17,917	\$ 21,050

(ix) IMPACT ON STATE'S TRANSPORTATION NEEDS

There is no use of this line by other railroads; no parallel railroads or highways near this line. Railroad believes that no portion of this line could be operated profitably if rehabilitation (est. \$10,484) were performed because of its low density.

(x) SUMMARY DATA

	<u>1975</u>	<u>1976</u>	<u>Jan.-Aug. 1977</u>
(1) Savings In Operating Expenses and Charges	\$ 21,746	\$ 27,791	\$ 9,284
(2) Less: Loss of Operating Income	\$ 15,884	\$ 22,955	\$ 11,763
(3) Increase in Taxable Income	\$ 5,862	\$ 4,836	\$ 2,479
(4) Effective Tax Rate	23.82%	22.91%	0%
(5) Increase in Federal Income Tax Liability (3x4)	\$ 1,396	\$ 1,108	\$ -
(6) Increase in Net Railway Operating Income (3-5)	\$ 4,466	\$ 3,728	\$ 2,479

(xi) RAIL BANKING

This line is not being considered for rail banking.

(xii) DISCUSSION

The properties to be abandoned would not likely be suitable for other public purposes. The area is lightly populated and would not require additional highway or mass transportation service. At this time, unless some new situation develops, MoDOT supports the abandonment of this line. There has been no interest expressed on the part of either local populace or rail users in this region for continued operation of this line.

(xiii) PROJECTED FUTURE AFTER EXPIRATION OF FEDERAL ASSISTANCE

Should federal assistance be sought and be granted, it is anticipated that upon the expiration of the federal assistance, the carrier will abandon service and the track will be removed upon the expiration of statutory waiting periods.

Columbia Branch

(i) LINE IDENTIFICATION

ICC Docket No.: AB 10-13F

Line Segment: Columbia, Mo. Branch, 782 feet

Railroad: N&W

(ii) LINE STATUS

Abandonment intent filed April 28, 1978.

(iii) LOCATION

Located wholly within the City of Columbia, Boone County, Mo.

(xi) DISCUSSION

The reason for the proposed abandonment is that the City of Columbia is desirous of purchasing for city development property in which the N&W has an interest in the downtown central area of the city. Approximately 782 feet of main line right-of-way of the Columbia Branch is located on this property and therefore must be abandoned before the property can be conveyed to the city. Included in the proposed sales price is the cost of relocating rail facilities within the city and making certain track changes. The proposed abandonment will not result in any discontinuance of rail service since users now served will continue to receive service on other nearby tracks.

A complete line analysis was not performed on this line; it was eliminated from further study due to the fact that the City of Columbia has requested abandonment and will, upon abandonment, purchase the property, including the Depot building. Furthermore, there will be little disruption of natural habitat or wildlife within the area; there will also be little change in noise level pattern. To summarize, the anticipated environmental impact would not constitute a major federal action having a significant effect on the quality of the human environment. Since it is anticipated that no traffic will be lost due to moving the track 1½ blocks north, it is felt that there will be no significant increase in either energy requirements or natural resources consumption.

COLUMBIA, MO

MOBILE

SEE IN THE ABANDONMENT
M.P. 14.44

14.44

UNDESIRABLE

END PRO. ABANDONMENT
M.P. 14.44

TRACKS TO BE RETAINED

14.44

14.44

14.44

14.44

14.44

14.44

14.44

14.44

ST JAMES STREET

MCLESTER STREET

HINKSON STREET

STREET

ST JOSEPH STREET

PROPOSED ABANDONMENT OF
782' MAIN LINE COLUMBIA BRANCH
WESTERN REGION - MOBERLY DIVISION
APPLICATION BY
NORFOLK AND WESTERN RAILWAY CO.

0 100 200 300 400

N-338

For the above reasons involving the convenience for the City of Columbia, MoDOT does not recommend this line for financial assistance and does not protest the proposed abandonment.

Conclusions and Recommendations of Analysis

The results of the line-by-line analysis can be summarized as follows: of the 10 lines reviewed in this section, 6 lines (totalling 39.1 miles of track) were found not to warrant any additional analysis. In 3 cases (Columbia-McBain, Pittsburg-Mulberry, and Maitland-Skidmore) the ICC has granted the abandonment applications and the track has been scheduled for removal this year. On all 3 lines, there was no public interest expressed by either shippers on the line or the local populace contained in a 'petition to investigate'. Of the remaining 3 lines not warranting further analysis, 1 (Maryville-Barnard) has been granted a conditional approval of abandonment; this line is not considered, by MoDOT, to merit candidacy for rail service continuation. Another line (Columbia Branch) does not warrant additional analysis due to the active support of both the shippers and local populace in favor of abandonment. Finally, MoDOT feels that the Brooks Jct.-Vanduser line, does not merit further study at this time.

The remaining 4 lines (totalling 209.1 miles of track) have been found, by this Department, to warrant further indepth studies on their potential as possible candidates for rail service continuation. Of these 4 lines, 2 (Willow Springs-Winona and East Lynne-Bolivar) are currently Category III; the Richmond BC Jct. line, though granted conditional approval of abandonment, merits study due to possibility of retention of a 17 mile segment of track or possible acquisition of the segment by local interests. The remaining line, Franklin-Fayette, though approved for abandonment by the ICC, merits additional study by MoDOT in regard to its potential candidacy as an independently-owned, short line railroad.

If, after this further detailed study, any of these 4 are selected as candidates for assistance, the selection will be based on an analysis of social, economic, and environmental effects of abandonment and the willingness of affected shippers/public on the line to provide section 803 matching funds.

Projects 266.15 (c)(3)(vi), 266.15 (c)(4)(x-xiii), 266.15 (c)(5)

These sections will be submitted at a later date with the Department's Certified Program of Projects.

Other Projects 266.15 (c)(3)(vii)

This section requires a list of projects which the State of Missouri wishes to assist from sources other than the section 5 program. At this time, Missouri is not considering any projects to be funded outside of this program.

It is important to understand that the purpose of this State Rail Plan is not to delineate Missouri's position on individual abandonment petitions filed within the state. MoDOT views its main responsibilities as being the representative of Missouri interests in abandonment proceedings on an entirely separate function. The main purpose or goal of this document is to determine which of those lines that have been abandoned since February 5, 1976, those lines currently pending abandonment before the ICC, or those lines which may be proposed for abandonment, should qualify for public investment as per the Railroad Revitalization and Regulatory Reform Act of 1976. One must also keep in mind that the Missouri Department of Transportation will remain constantly vigilant in evaluating and analyzing one or all of these lines as comments, questions, or new information arises.

CHAPTER VI

PARTICIPATION IN THE PLANNING PROCESS

Planning Participation 266.15 (c)(6)

MoDOT has made significant progress during the last year in its efforts to secure external participation in the rail planning process. External participation is defined as input from interested parties outside of the Department and includes, but is not limited to, the railroads, the public, local and regional governments, state and federal agencies, shippers, and rail labor. In order to prevent state rail planning from occurring in a vacuum, as well as meeting FRA requirements, participation is solicited from these groups to provide the necessary data to perform state rail planning and allow these groups to express their views on the state's rail policy, planning process and railroad abandonments. Since MoDOT's first meeting last year with railroad planning representatives for lines operating in Missouri, the Department has progressed through a series of public meetings and into public hearings on this document. This participation process which was developed within the last year will be continued and expanded in the future to address other issues for inclusion in annual updates.

The participation program can be divided into three categories: railroad meetings, public meetings, and public hearings. The railroad meetings, starting with the initial one in May, 1977 with planning representatives for the twelve major railroads operating in Missouri, have evolved into quarterly meetings with these railroads and the following invited participants: Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), National Railroad Passenger Corporation (Amtrak), Missouri Railroad Committee, American Association of Railroads (AAR), Mid-America Regional Council (MARC), East-West Gateway Coordinating Council (EWGCC), Office of Administration and the state Departments of Natural Resources, Public Safety, Consumer Affairs, Regulation and Licensing, Agriculture, Labor and Industrial Relations, Highways and Conservation. These meetings serve to identify data requirements and sources, review planning results, coordinate planning efforts, and direct future planning efforts.

Public meetings provide a citizen counterpart to the railroad meetings cited above. At these meetings shippers, local governments, environmental groups, and the public in general are provided the same opportunities as the railroads and government agencies to participate in the planning process. In the future, joint meetings between the public and railroads will be held, particularly on individual branch lines, and to a limited extent this has already occurred.

An initial series of public meetings was held in areas with the most Category I and III lines to create public awareness of potential abandonments and present an overview of the railroad issues facing Missouri today. Meetings were held in Springfield, Kansas City, St. Joseph, Albany, Kirksville, Chillicothe and New Madrid. Notices of the public meetings were published in 19 newspapers and sent to 293 shippers and 47 county courts; new releases were sent to 104 newspapers, 47 radio stations, and 8 television stations to publicize the meetings. Despite the low attendance at these meetings (163 total) it is believed that the views expressed by those in attendance were representative of the public in general, particularly in the rural areas.

An educational package consisting of a Missouri Railroad Map, Listing of System Diagram Lines in Missouri, ICC Railroad Abandonment Procedures and Timetable Missouri Railroad Facts, and a Draft Philosophical Framework was given to each attendee at the meetings and was also made available upon request from MoDOT and the regional planning commissions. The Listing of System Diagram Lines and the Railroad Map identify those lines presently subject to abandonment proceedings and lines subject to abandonment within three years, as well as all other lines in Missouri. The ICC Abandonment Procedures and Timetable describe the railroad abandonment process, format for protesting abandonments, and the time frame for completing these actions. The Railroad Fact Sheet provides a brief synopsis of present railroad situation in Missouri. The Draft Philosophical Framework provides the Department's overlying policy and objectives in developing and implementing a State Rail Plan.

Attendees at the meetings included local government officials, regional planning commission representatives, railroad agents, railroad laborers, shipper elected state officials and concerned citizens who shared their views on these handouts and the issues from their perspective. Prior to these meetings it was recognized that the data available from the railroads is often inadequate for

estimating specific economic and social impacts which would result after termination of railroad service on particular line segments. The only way to estimate such impacts is through primary data collection in the form of surveys of the companies currently making use of the railroad service. Accordingly, a rail user survey, similar to those used in Iowa and Kansas, was distributed to investigate the current and future demand for rail service, the potential cost impacts of abandonment of rail services, and the alternative modes of transport available to users. MoDOT views extensive participation in the questionnaire as an important point of entry to the development of a systematic in-house planning capability.

Public meetings also occur as university lectures in response to local railroad issues. Lectures have been given to engineering and transportation students at Central Missouri State University and the University of Missouri at Columbia and Rolla. The Division has participated in public meetings in Fulton in reference to their "Save Our Service" (SOS) committee. The ICG rail line in that area is presently in Category II and local people are quite interested in saving this line. Another local rail problem is the Katy line from Franklin to Fayette, which is being considered for purchase as a short line railroad; the Mayor of Fayette and his consultant have had several conversations with the Department in reference to this. Conversations have also taken place with officials of the city of Cape Girardeau and Clay County, who have contacted the Department several times in regard to possibilities of lines being abandoned in each. The Department stands ready to meet with these officials and assist them in any way possible.

The final category of the participation program is that of formal public hearings on the State Rail Plan and its subsequent annual updates. Public hearings were held on this initial State Rail Plan during July 1978 prior to its submission to the FRA. Any comments made at these hearings requiring substantive changes to this document have been incorporated prior to submission. Minor comments and revisions will be reflected in the first annual update.

The contents of this document and the future planning directions of MoDOT reflect the impact of the participation program on the planning process. A few specific comments from this multitude of meetings bear repeating. The railroads themselves are becoming more cooperative and receptive to state involvement in railroad planning. One particular concern expressed by the railroads prior to the initial series of public meetings, which was not borne out at the meetings,

was that of the public's insistence on saving all endangered branch lines.

Opposite this, there was a high degree of emotionalism towards abandonments in evidence at the public meetings. Yet, when reduced to facts and figures, the public and the shippers in particular, can be just as practical as the railroads. The major complaint that surfaced at the meetings by the shipping public was the adequacy of service issue represented by car shortages and bad order cars. There is a general consensus among shippers that it is the railroads who abandon shipping through poor service long before the shippers abandon the railroads for another mode. It is the Department's belief that this issue deserves further investigation with a goal of providing essential transportation services to shippers and a sufficient level of business to railroads to generate an adequate return on investment.

One significant outgrowth of these public meetings was the push by the Department for shippers to form shipper associations/committees or other such organized groups to be unified in their attempt to preserve rail service on local lines. As a result, several such organizations, including: the Howell-Shannon County Railroad Transportation Committee; Save Our Service (SOS) Committee; the Clark, Scotland, Schuyler, and Appanoose County Railroad Committee and several other less formal groups have been organized for just such purposes. MoDOT actively encourages the formation of such committees and even a statewide shipper committee in order to achieve a unified input into the rail planning process. Such organizations establish points of contact for individual branch line problems, provide for a coordinated approach to solving such problems, and allow a voice for the people of this state to express to their elected officials their concerns on the rail industry and the major impact that it does have in Missouri today.

The results of this participation program have been achieved through a continual dialogue between the staff and interested parties. The Department has developed rapport with the railroads and shippers by becoming a spokesman for both of them. While supporting some abandonments and opposing others, the Department has attempted to avoid an adversary role among shippers and the railroads by basing its position on facts. State and local government officials are more

knowledgeable about the railroad situation in Missouri due to the Division's efforts to inform them of local, regional, state, and national issues. MoDOT is currently supporting federal rail legislation that allows the Department to help branch lines before they are abandoned, not when it is too late to be of any effect. During the coming year the plan development team will assess the results of the participation program and revise procedures for any problem areas identified. MoDOT stands ready to meet with any interested party, at any time, anywhere, upon request.

Planning for All Transportation Services 266.15 (c)(7)

Planning for all transportation services on a statewide basis is a complex process far beyond the capabilities of any single state agency. Yet, it is the mission and overlying objective of the Missouri Department of Transportation to plan, promote, and develop a balanced multi-modal transportation system. Such a system will be coordinated with other state programs for economic and social development, energy conservation, and environmental protection to ensure its responsiveness to their needs and to make maximum use of public funds devoted to transportation.

To accomplish the required planning, the Department is divided along functional lines into Aviation, Railroad, Transit, and Waterway divisions. Each division is responsible for planning within its mode while the Division of Planning is responsible for coordinating the individual efforts into a total transportation planning effort. Recognizing that planning is a continuous process, an Airport System Plan, Statewide Waterborne Commerce and Port Development Plan, State Rail Plan, Transit Development Plans for selected communities, and a Statewide Transit Development Plan are being developed or have been developed and are being updated.

Since the above mentioned planning efforts are all internal to the department, their coordination, while complex, is still a straight forward proposition. Coordination external to the department is far more complex but is being accomplished through several mechanisms including other agency participation in the planning process, public participation, metropolitan and regional planning commission involvement, Project Notification and Review System (OMB Circular A-95), and the Transportation Policy Council.

It is important to note that the one major mode of transportation not

mentioned above is highways. In Missouri, separate Highway and Transportation Departments were created under the Omnibus State Reorganization Act of 1974, with the responsibility for highway planning obviously resting with that department. Since all other modes of transportation are dependent upon highways in some form or other, these coordination efforts are extremely important to ensure a balanced multi-modal transportation system.

During the development of transportation plans, participation by other state agencies is encouraged through joint planning sessions and review of draft documents. State agencies involved include, but are not limited to, the Department of Highways, Agriculture, Labor and Industrial Relations, Conservation, Natural Resources, the Division of Commerce and Industrial Development, the Public Service Commission, and the Office of Administration.

Metropolitan and regional planning commissions are similarly involved in planning sessions and review of draft documents. In the case of metropolitan planning commissions, which are largely responsible for their own transportation planning, the Department of Transportation participates in their planning effort and incorporates their planning results into the statewide planning effort. Planning commissions are also instrumental in the A-95 review process as are other state agencies and local governments. The purpose of this process is to facilitate coordination of planning and development by identifying the relationships of any project to state, area wide or local plans and programs and securing comments and views from the affected agencies. Usually, when federal funds are used in the planning process, an A-95 review is required prior to the awarding of the planning grant. In the case of the State Rail Plan, the plan itself must be reviewed through the A-95 process before it is submitted to the FRA for approval.

The planning commissions are also instrumental in securing public participation in the planning process. They are used to schedule public meetings and to disseminate information and collect comments from the public. Public participation is encouraged for two reasons. First, it is essential to provide information to the public as to what is happening to the transportation services available to them. Second, it is essential to receive public input on these services and proposed changes in them.

The Transportation Policy Council was also created by the Omnibus State

Reorganization Act of 1974. It is comprised of the Departments of Transportation, Highways, Public Safety, the Public Service Commission, and various other agencies designated by the Governor for the purpose of establishing a plan which will provide for long-range development of state policies relating to modes of transportation and related facilities in the state. While presently in an inactive status, it was the Council's conclusion that a consolidation of the Highway and Transportation Departments was essential to the achievement of a balanced, multi-modal transportation system for the state. Until this goal can be accomplished, it is essential that the other coordination measures for the overall planning of all transportation services be reinforced and accomplished.

CHAPTER VII

OBSERVATIONS AND FUTURE DIRECTIONS

The provision of safe, adequate, dependable rail transportation is vital to the continued growth of Missouri's economy. By making the state more attractive to new or expanded industry Missouri's rail network plays a major role in the expansion of the state's employment opportunities. The state's long-term strategy, therefore, is to preserve essential rail rights-of-way and to promote and improve the rail network to meet the transportation needs of Missouri residents, industry and agriculture.

Prior chapters of this document have identified those railroad issues facing the state today, described and inventoried Missouri's rail system and service, examined the nature of commodity movements, and has examined in detail those lines either approved for abandonment since February 6, 1976, or with abandonment applications pending before the ICC. This State Rail Plan culminates a year and a half of work and represents the combined efforts of the rail planning staff and a consultant as reviewed and modified through the participation program described in Chapter VI. Most importantly, this document represents the planning process, which previously did not exist, that Missouri is using to address these railroad issues. In many ways this plan raises more questions than it answers. It presents an assemblage of facts, figures and a discussion thereof, to fully identify and clarify the present status of the railroad system within Missouri, and to point out the directions that the state must take in order to preserve railroads as a viable entity in the field of transportation.

Observations

The major observation resulting from the preparation of this plan is the rapidity with which the railroad industry is evolving. This is exemplified by the recent bankruptcy of the Milwaukee Road, the possible bankruptcies of other railroads, the proposed BN-Frisco merger and other potential mergers, and the meetings called by Transportation Secretary Brock Adams last winter to discuss the multitude of Midwest rail problems. Clearly, the Midwest railroad situation is the major transportation issue facing Missouri today, and the decisions made to ad-

dress these issues are of the utmost importance as their consequences will be felt far into the future. Railroad lines and their associated rights-of-ways abandoned today will be difficult to replace in the future.

MoDOT shares the views of others that there will be a significant restructuring of the nation's railroads with a particular impact on the Midwest. It appears that through bankruptcies, mergers, voluntary consolidations, government action or some other action that railroads as we know them today will not exist in the not too distant future. Predictions are that the fifty-two Class I railroads in existence today may be reduced through these actions to perhaps ten transcontinental railroads as typified by the proposed BN-Frisco merger. Both the state and federal governments must monitor, guide, and assist this restructuring, but must also endeavor to keep the railroads in the private sector and avoid another Conrail.

It is not important from the state's perspective that the corporate railroad entities be preserved, but rather that essential services be retained. Currently two railroads are in bankruptcy proceedings and several others could follow suit within a few years. At least six of the remaining companies having substantial mileage in the state are in good financial health. Indications are that even if one or more of the financially weak railroads should file for bankruptcy, their key trackage would be too valuable a property to abandon. Operations could be shifted to a neighboring or connecting railroad if dismemberment of a bankrupt railroad's property should have to take place.

Abandonments of branch lines, a local problem and the impetus behind state rail planning, are caught in the midst of these national and regional issues. Unprofitable branch lines, as well as main lines, deemed essential to future economic development should not be maintained at a total cost to the railroads. The branch line situation should be left flexible enough to the extent that either unexpected business losses might render a currently solvent line uneconomical or the addition of a new industry, new mineral discoveries or some other positive change might restore a low revenue route to full contributory status economically.

A potential rail capacity problem could be triggered by the fact that private enterprise can hardly be expected to continue paying for retaining uneconomical facilities on a standby basis. Granted even a very modest shift of

freight movements from highway to rail, should the energy crisis tighten further, all the principal railroad main lines in the state and many branch lines would be crowding the upper limits of their present capacity.

However, MoDOT is generally opposed to either purchasing or subsidizing railroad operations. Judging from the experience of New Hampshire in acquiring two money losing, under maintained branch lines of the Boston and Maine Railroad, the state would be forced to underwrite heavy losses. Similarly, the financial results of Vermont's acquisition of the St. Johnsbury and Lamoille County Railroad have been extremely unfavorable. In both cases, there were loud outcries by actual and prospective shippers as to the extent of economic disaster which would overtake them if rail service were to be lost. Continuance of the rail service, by state subsidy, has fallen far short of handling the purported traffic; in the New Hampshire case, actual loadings are only 17 percent of the promised volume.

Both upgrading costs and normal maintenance of way costs for the worn out trackage attained intolerable figures. Because the promised shipments almost entirely failed to show up, New Hampshire found itself trying to operate one seventy-three mile line on the basis of an annual carload origin/termination factor of three carloads per mile rather than the thirty-four per mile previously considered by the ICC to be an absolute minimum. Vermont has had to give up twice on half or more of the St. Johnsbury and Lamoille County Railroad trackage since there were not enough dollars in the state treasury to rebuild the line.

Several small government (city) owned railroads that presently show profits are only profitable because of special circumstances: (a) abnormally high freight divisions usually to the detriment of the connecting road haul carriers or (b) dependence upon a nonrenewable commodity that is facing depletion in the service area. Some privately owned short lines, especially in the mid-South, show substantial profitability as a result of collecting abnormally high divisions from the connecting long haul carriers. The resultant siphoning of needed main line revenues has severely impacted on the long haul railroads.

Generally speaking, if a line is ready to be pushed off on an authority, a state, or some other noncommercial body, the chances are that it has a strongly negative potential or it is in fairly poor physical condition. In Michigan, sev-

eral badly run down lines recently have been saved from abandonment and turned over to private operators. It is too soon, however, to determine Michigan's results. Few, if any, of the properties now approaching abandonment appear to have even a fraction of the potential of such local government acquisitions as the Belfast & Moosehead Lake Railroad in Maine and the City of Prineville Railway in Oregon. The problems are the same concerning physical condition, upgrading needs, and probable poor prospects of financial return. The record is not good on performance by lessees; two of the three New England area management contracts have been dropped in 1976-77 and the states have had to seek new operators for the lines they own and lease.

MoDOT, however, is committed to using its limited resources to return essential services to economic viability. Through rehabilitation and coordinated efforts at economic development, it is believed that essential services can be returned to profitability. Similarly, MoDOT believes it is essential to retain the capacity for rail passenger service through the preservation of rights-of-way and storage of equipment, as opposed to running little used trains. Now is the time for the railroads, the government, and the public to make difficult decisions, maintain vigilant observation, and endure many short-term, localized hardships in order to prevent both long-term drains on our tax dollars and the destruction through nationalization of a viable component of this country's free enterprise system.

Future Directions

Future directions point at a continuation and expansion of the planning process represented by this document. From the basic passive determination of whether or not to oppose abandonment petitions, the evolution of a state capability to actively participate in rail service continuation and system improvements is now established. The first priority of business is to increase the state resources committed to state rail planning. As evidenced by this document and stated herein, the limited resources entrusted to MoDOT have prohibited the completion of the planning process as far as necessary and progress into the implementation phase. The people of Missouri require and deserve a greater state commitment and involvement in designing and providing essential rail service as a major element in a balanced multi-modal transportation system serving

their needs.

The second thrust of future activities will be to prepare a Certified Program of Projects which will carry the state from planning far into implementing local rail service assistance projects. This will require a detailed analysis with public input of endangered branch lines to establish priorities and select projects for funding. Incumbent in this process is the need for MoDOT, industrial development agencies, the railroads, and the public (shippers) to formulate long-range plans to more accurately identify areas requiring future rail service. This would not only identify areas of future industrial development and locate known or potential natural resources requiring rail service, but, as a result, efforts to preserve local rail lines would be concentrated where most needed.

Critical to this analysis of endangered branch lines are the participation program and pending federal legislation. Hopefully, by the time this document has been released to the public, legislation will have passed that will extend federal planning assistance, increase project funding, and most importantly, permit local rail service assistance to a line prior to its need to be abandoned. MoDOT considers its initial participation program very successful and useful to the planning process on all the issues and branch lines in particular. Considerable effort will be directed to continuing and expanding the participation program.

Other activities will continue to address the unresolved issues identified by this document and participate in the planning efforts already initiated. The Midwest Rail Merger Study is of particular interest to MoDOT with the pending BN-Frisco merger and the possibility of other mergers increasing in the future. Similarly, the St. Louis Terminal Project offers dual benefits; first, land released by the railroads through the city would be available for redevelopment, and second, train movements through the metropolitan area would be expedited resulting in shorter transit times, shorter grade crossing blockage, and overall improved rail service.

Unfortunately, the railroad issues requiring attention appear almost endless at this time and would exceed the resources available to MoDOT even if these resources are increased. Areas still requiring attention include the imbalance

among modes in taxation, user charges and subsidies, coal transportation, passenger service, terminals and yards in St. Joseph and Kansas City, certain railroad main lines, and a host of others. Hopefully, in time, MoDOT can address these and future issues as the need arises.

This plan establishes Missouri as a state actively concerned with its system of transportation and in particular with its railroad portion of that system. The Department of Transportation encourages participation in its planning process and in the review of this planning effort from the public, the railroads, and any other interested party. Constructive criticism designed to provide positive changes in philosophy, policy, plans and the results achieved through their application are most welcome.

Perhaps, most important of all, is the fact that this plan establishes a factual basis from which the state can address problems and find solutions before the problems become crises. With the philosophy of this state toward the railroads, as a viable and integral part of transportation within the state, as expressed in this State Rail Plan, Missouri can actively identify the future needs of the railroad industry for both Missouri, and in a sense, for the nation as a whole.

APPENDIX A

Glossary

GLOSSARY

The principal railroad terms employed in this planning document are defined. The term "Uniform Code Definition" refers to wording agreed upon by a group of Midwestern Railroads.

Automatic Block Signals (ABS) - A series of consecutive blocks governed by block signals, cab signals, or both, actuated by a train, engine or by certain conditions affecting the use of a block. (Uniform Code Definition)

Automatic Train Stop (ATS) - An automatic system that will stop a train if the engineer fails to acknowledge restrictive signals. This is one of the federally required safety installations when running speeds that exceed 79 miles per hour.

Bridge Traffic - Traffic that originates and terminates on other railroads, traversing the length of the intermediate carrier's route. In this planning report the term also refers to traffic that crosses Missouri enroute to/from out of state points.

Centralized Traffic Control (CTC) - A block signal system within which train movements are authorized by block signals whose indications are controlled from a remote point. Same as Traffic Control System (TCS).

Circus Loading - A method of loading piggyback trailers on flatcars. Several cars are lined up against a ramp and trailers are backed on or pulled off over the length of the cars.

Continuous Welded Rail (CWR) - Rail is welded into lengths usually about a quarter of a mile long to provide a stronger track structure and to reduce maintenance costs. Also used to cut lateral motion or rolling caused by typical staggered rail structure prevents train derailment.

Cropping and Welding - Jointed rail, as distinguished from continuous welded rail, can become deformed in the joint area due to excessive battering. The basic rail sections frequently can be recovered for reuse by cutting off the bent end portions and then welding the remainder into various size longer lengths up to as much as 1,000 feet or more.

Cross Level - A track maintenance procedure which restores rails to height levels and eliminates high or low spots.

Double Handle - An inefficient process of handling a car twice when once would suffice; likewise applicable to loading or unloading cars when cargoes must be handled more than once.

Embargoes - A process of putting a line "off limits" to all shipments usually due to a physical condition such as a flood or burned out bridge.

Hi-Cube and Verti-Pak Cars - High capacity, special purpose cars, ordinarily 80 to 85 feet in overall length, employed to handle automobile parts and stacked autos.

High Spike - A condition caused by passing trains pushing ties down into insufficiently firm ballast resulting in spikes pulling loose from the ties.

Interlocking - An arrangement of signals and signal appliances so interconnected that their movements must succeed each other in proper sequence. (Uniform Code Definition)

Milepost - A system of enroute railroad track location and measurement. Mileposts usually begin at a central location and progressively go higher.

Momentum Grade - A short grade that usually can be run at speed due to the built up momentum of the train.

Relay Rail - A good grade used rail which has been released for re-use.

Rock-Off - The truck centers (wheelbase) of the modern jumbo cars match the thirty nine foot length of jointed rail section's staggered joints. The effect of running these cars over other than very good condition jointed rail is to create a lateral sway as they pass over the staggered joints. Within the critical speed range between 15 to 25 mph, the harmonics of this lateral rocking motion become so severe that cars can easily be bounced off the tracks.

Ruling Grade - A longer grade that usually determines the size (total tonnage) of trains and the number of locomotive units necessary for operation.

Run-Through - Pre blocked trains that proceed intact directly to another carrier to avoid yard and terminal delay.

Set-Back - A car that is not ready to be removed, but must be pulled out and then later replaced in order to switch an industry.

Sledded - A process where ties and rails are lifted so that fouled ballast underneath can be removed and cleaned.

Surfacing - Adding new ballast and tamping it.

T&S - Commonly-used railroad abbreviation for ties and surfacing.

Tamping - A process of packing ballast tightly around ties in order to hold track structure in proper alignment.

Trackage Rights - An agreement between two or more railroads for combined operation on one owner's tracks.

Traffic Control System (TCS) - A block signal system within which train movements are authorized by block signals whose indications are controlled from a remote point. Centralized Traffic Control and TCS are the same.

Upgrading - Improvement of trackage, usually a minimum of new ties and surfacing and, frequently, installation of new or relay rail.

APPENDIX B

Footnotes

FOOTNOTES

¹Uniform Code of Rules, 1968 Revised.

²U.S. Bureau of Census, Census of Transportation: Number of Personal Trips per Household during 1962 by Region and Family Income (Washington, D.C.: Government Printing Office, 1963).

³U.S. Bureau of Census, National Travel Survey, Propensity of Travel, Travel Expectancy Tables (Washington, D.C.: Government Printing Office, 1967).

⁴Survey Research Center, "Transportation Study" (University of Michigan Press, 1965).

⁵U.S. Bureau of Census, National Travel Survey, Propensity of Travel, Travel Expectancy Tables (Washington, D.C.: Government Printing Office, 1967).

⁶Annual Statistical Issue (Sales Management Magazine, July, 1976).

⁷Ibid.

⁸U.S. Bureau of Census, Census of Transportation: Number of Personal Trips per Household during 1962 by Region and Family Income (Washington, D.C.: Government Printing Office, 1963).

⁹U.S. Bureau of Census, National Travel Survey, Propensity of Travel, Travel Expectancy Tables (Washington, D.C.: Government Printing Office, 1967).

¹⁰Ibid.

APPENDIX C

State Rail Preservation Act

Chap. 680

Chapter 680

DEPARTMENT OF TRANSPORTATION

STATE RAIL PRESERVATION ACT

Sec.

- 680.100. Short title.
- 680.105. Definitions.
- 680.110. Duties of department.
- 680.115. Financial assistance, to whom, limit--department to act as agent, for whom, when.
- 680.120. Cooperation with other states.
- 680.125. Power to contract.

STATE RAIL PRESERVATION ACT

680.100. Short title.--Sections 680.100 to 680.125 may be cited as the "State Rail preservation Act".
(L. 1976 S.B. 743 & 1)

680.105. Definitions.--As used in sections 680.100 to 680.125:

- (1) "Department" means the department of transportation;
 - (2) "Rail service" means both freight and passenger service.
- (L. 1976 S.B. 743 & 2)

680.110. Duties of department.--The department is hereby authorized to exercise those powers necessary for the state to qualify for rail service preservation subsidies or other assistance pursuant to the provisions of any federal act. The department shall:

- (1) Establish a state plan for rail transportation and local rail services;
 - (2) Administer and coordinate the state plan;
 - (3) Provide in the plan for the distribution of federal rail service preservation subsidies or other federal assistance;
 - (4) Provide satisfactory assurances on behalf of the state that such fiscal control and fund accounting procedures will be adopted by the state as may be necessary to assure proper disbursement of and account for federal funds paid to the state.
- (L. 1976 S.B. 743 & 3)

680.115. Financial assistance, to whom, limit--department to act as agent, for whom, when.--The department is hereby authorized to provide financial assistance, within the limits of the funds appropriated for this purpose, for the preservation of operations and maintenance of any railroad within the state as provided for in relevant federal legislation. The department shall provide no public money or property or use or allow* the use of public credit to any private person; except that, money or property may be distributed together with money or property received from the United States for any public purpose designated by the United States.

The department may also act as the agent in cooperation with any local or regional transportation authority, local governmental units, any group of rail users, or any person, and the federal government in any rail service preservation program.

(L. 1976 S.B. 743 & 4)

*Word "allowed" appears in original rolls.

680.120. Cooperation with other states.--The department may cooperate with other states in connection with the preservation of any rail services within this state. In carrying out the authority conferred by this section, the department may enter into general contractual arrangements with other states.

(L. 1976 S.B. 743 & 5)

680.125. Power to contract.--The department may contract with any domestic or foreign person, firm, corporation, agency or government to provide, maintain or improve rail transportation service within this state.

(L. 1976 S.B. 743 & 6)

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